Transitional drawing as a tool for generating, developing and modifying ideas: towards a programme for education

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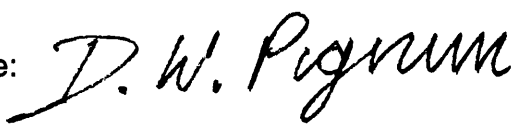
Signature: 

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Abstract

Transitional Drawing as a Tool for Generating, Developing and Modifying Ideas: Towards a Programme for Education.

This research is designed to find out more about the implications of expert transitional drawing practice for a programme of secondary education and employs three methodological strands: ethnography, grounded theory and hermeneutics in a structure of Cycles of Emergent Disclosure illustrated by excerpts from interviews and visual material. An historical reflection uncovers the link between inventive tropes and drawing characterised by a transition of states that avoid premature closure and are open to the use of other sign modes. This produces what Kress has described, as a 'multi-mode object'. Reasons for the use of the term 'transitional' and a terminology for 'registers' of transitional drawing emerge in the cycles. The concept of the 'mind's eye', used in some of the literature, is critically explored. The crucial concept of 'disinhibitive dispensability', is derived from Winnicott's theory of object relations, Bhaskar's dialectic grounded in the data. Bourdieu's theory of habitus and field, and semiotic theories are central to my understanding of this phenomenon. The core concepts of 'presencing' and 'absencing' and the trope of *parabasis* or irony as 'doing and undoing' facilitated by disinhibitive 'dispensability', and the social acquisition of this form of drawing are among the central findings of the research. The recommendations for education look at what kind of knowledge transitional drawing constitutes and takes a broader view of transitional processes. A curriculum model, of 'scaffolded' moves from 'active' to' operational' control is proposed. Winnicott's concept of 'potential space' and Vygotsky's 'zone of proximal development', are combined in a concept of the 'good enough teacher'. Transitional drawing is seen as part of

education as a 'semiotic apprenticeship' and as 'construction', rather than the expression, of the self. In the last section the central importance of transitional drawing processes to art and design and its problematic relationship to the use of computers is considered.

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Introduction

'We know too little about the use of the notebook, the sketch, the outline, in reflective work.' (Bruner, 1996 p.21)

This research stems from a relationship between two distinct yet overlapping areas of activity, or 'habitus' and their related fields. The first is that of art and design teaching in the social space of my classroom situated in a secondary international school. The other is my activity as a practising artist alone in the workspace of the studio. One 'habitus' relates to the field of education, the other to that of art, specifically its production and reception in the broader cultural context.

The concept of habitus is used throughout this research to clarify the plurality of factors and perspectives which impact on the creation of the phenomenon which I have termed 'Transitional Drawing' (hereafter TD). Habitus is defined by Bourdieu (in Dreyfus and Rabinow, 1993, p.37) as "a system of durable, transposable dispositions which functions as the generative basis of structured, objectively unified practices." The habitus of the agent reproduces the social field of the activity which governs it, producing a two-fold relationship of structuring and structured. This relationship is described by Bourdieu (in Grenfell, 1996, p.288) as the:

"... dialectical relations between objective structures...and the subjective dispositions within which these structures are actualised and which tend to reproduce them."

My activity in the workspace of the art and design classroom has for many years involved the use of TD, in dialogue with pupils studying for the International Baccalaureate (IB) diploma in art and design in the last two years of secondary education. Later, as my interest in the

phenomenon of TD grew, I began an experimental TD programme with pupils in the lowest age range of the secondary school. At this early stage the 'puzzle' I encountered was that in the IB programme, however much I showed pupils examples of TD and encouraged them to use this approach, response and performance were very uneven. Some pupils would use it on a daily basis and in dialogue with me, as well as alone in their 'Research Workbooks' (RWB) (an obligatory element of the higher level IB art and design course) while others did not use it at all. At the same time, there appeared to be a direct correlation between use of TD as personal agency evidenced in the 'workbooks' and final achievement grades. In terms of teaching, I began to identify this process as that which Jiricna and Wilford (in Lawson, 1994, p.18) described "as one of the most difficult skills to acquire". For purposes of teaching, I had collected a wide range of TDs from a variety of fields including, at this early stage, TDs used by writers as part of their drafting processes.

In this connection, I also began to reflect upon my own TDs contained in some of the fifty or more note-sketchbooks I have accumulated over the past thirty years. I noticed that the first of these was not a notebook as such but was produced in 1968 at the end of art teacher training in which, at that time, there was no emphasis on transitional process at all. This book was entirely theoretical in nature and took the form of a dissertation with illustrative photographic material. I cite this as part of my transitional processes because some of the visual images were used immediately after its production to generate paintings and many pages of the book became smeared with oil paint in this process. My subsequent use of notebooks began as a collection of

observations and excerpts of speech collected during student employment in a mental hospital and are accompanied by a separate collection of drawings made of patients; the notebooks thereafter, until I began teaching art, consisted entirely of written material. Once I began teaching art, in the early 1980s, there is an increase in drawing activity much of which, in retrospect, falls broadly into the 'registers' of TD described in this thesis: (a) drawings done to rapidly record an idea or an artefact for possible later use; (b) drawing as a way of exploring an idea and sometimes working out certain practical problems involved in the work process; (c) drawings done in meetings as a form of what I now understand to be displacement activity and related to the 'doodle'; and (d) drawings done very rapidly in which the essentials of an idea are present but subject to further TD exploration and development. TDs appeared to be present in the activity of not only other artists, but also architects, designers and even film directors such as Sergei Eisenstein. It was this which suggested the existence of some common thread running through TD processes. At this early stage, I was almost unaware of the extent to which TD was used in a dialogic context, or that much of it was done, for example, on an envelope or piece of scrap paper, and then subsequently often discarded.

Interest in TD processes was brought into sharper focus through involvement in the development of the International Schools Association (ISA) Arts Curriculum, and subsequently the development of the first International Baccalaureate MiddleYears Programme (IBMYP) Art and Design Curriculum Guide (1995), where explicit emphasis is placed on transitional processes in a 'developmental workbook'. During this period I

came into contact with the Austrian sculptor Oswald Stimm, who worked in my classroom as a visiting artist for a period of two years and who would often draw with students on scraps of paper found in the class in the development of their ideas. He later became a key informant in the research process. In 1996, I completed an M.A dissertation (Pigrum, 1996) which dealt with TD (at that time referred to as 'schematic' drawing, based on Kant's Schemata) and its relationship to the IBMYP 'central interactive area' of 'homo faber'. The dissertation produced the realisation that while certain areas of creative process are impenetrable because, as Gadamer states (in Hoy and McCarthy, 1994, p.191) they "inhere in a background that cannot be made fully explicit, " TD seemed to represent a set of genres that exist prior to the agent who acquires it and produces a subjective variant which is then passed onto the next generation. This involves not only cultural reproduction but also the internalization of a range of conventions and strategies which, while not in the order of an imperative, seem to be an order of practical reasoning, a kind of 'abductive logic,' based on what Peirce (1998) has called a form of 'speculative rhetoric' that is akin to 'the blend of cogency and contingency,' condensation and displacement we find in dream work (Eagleton, 1990).

I observed in my collection of TDs varying degrees of systematicity, especially in drawings made by architects when compared to those made by sculptors and artists. This seemed to depend on the social conditions of their use and on the extent to which the TD was used in communication and collaboration with other practitioners or with clients. The architect's TD had to be understood by others but the artist need only

address the drawing to him/herself unless exploring or explaining something in drawing to another artist. Thus what later came to be seen as TD 'genres' seemed to have emerged from particular social contexts in a process of historical development and it was this which I took as the beginning of the research process.

The historical reflection locates the genesis of TD in the practices of the Renaissance workshop and the experimental and compositional drawing practices of Renaissance 'artist-engineers'. Two main forms of drawing used for project development, one sequential and one involving over-drawing, would seem to have emerged during this period (Westfehling, 1993; Summers, 1981; Gombrich, 1996). These forms of drawing sometimes included other signifying modes such as writing and numerals, and I suggest that, through use in a variety of collaborative social contexts, TD spread to artistic and design processes throughout Europe.

The historical reflection was conducted with the words of Wittgenstein in mind who states, "we must always be prepared to learn something new" (in Brill, 1995, p.54). The unexpected 'something new' I learnt is the way in which the inventive dimensions of Rhetoric were adapted to the visual arts in the Renaissance (Summers, 1981; Baxandall, 1986, 1988; Fumaroli, 1995). This led me to a notion of TD as as being related in its transitions, turns of movement or passage of states, with the language structures of metaphor and metonymy and other rhetorical tropes. This produced a link between language and TD in the collaborative context where the agent addresses the audience of another practitioner and in the autonomous context, where the agent is seen as

addressing the audience of the self. This notion is derived from readings in Perelman's New Rhetoric (1971) and concurs with Herbert (1988) and his ideas on the role of metaphor and metonymy in the study drawings of architects.

Both the 'Historical Reflection' and the 'Approach to a Definition' are based on archival sources. In the subsequent Cycles of Emergent Disclosure there is a preponderance of illustrative interview material in the development of the thesis. I used 'Cycles Emergent Disclosure' because this enabled me to maintain an open-ended experimental mode of thinking. Each cycle is built of different yet interrelated conceptual strands introduced in relation to the data. The interrelatedness of the strands is modified from one cycle to the next as new concepts are added and fresh connections and contradictions are addressed. As each cycle unwinds, different implications of the data and theory emerge and are explicated and lead on to another implication which in turn helps rethink the first while pointing to yet others.

The dialectic between language and drawing which guides the research process posed the problem of transferring concepts from language to the realm of the iconic sign. The theories of Bakhtin (1973, 1986, 1990) on voice, utterance and dialogic interaction, and the semiotic theories of Eco (1979) and Peirce (1998) play a very important role in providing a link between the linguistic and the iconic sign.

The semiology of Eco and Peirce extends the study of signs beyond that of language and also provides a partial solution to the vexed problem of the relationship between the non arbitrary nature of the iconic sign and the arbitrary nature of the linguistic sign. This is of key

importance to an understanding of the 'multi-mode object' (Kress, 1997) of TD and its openness to more than one signifying system. This multi-modality, combined with abbreviated *Nonfinito* drawing conventions allow for "tolerances and indeterminancies that amplify the ability to perceive or imagine many options" (Fish and Scrivener, 1990, p.17).

The Approach to a Definition constitutes the second cycle of Emergent Disclosure, in which I mark certain bipolar positions which provide a provisional framework for the subsequent cycles of disclosure. In the 'Approach to a Definition' the notion of TD as a *subjectile* is adopted, which shares both subjective and objective properties, a concept borrowed from Thevenin and Derrida's work on the multi-mode drawings of Artaud (Thevenin and Derrida, 1986) which have the dispensibility of a waste product. TD is also linked with Heidegger's notions of the 'thrownness' and 'towardsness' of the poet's drafting processess (Heidegger, 1975) and to Bourdieu's 'forth-coming' engendered by the dispositions of the habitus (Bourdieu, 2000). Subsequently the nature of writing in TD as a highly condensed 'word thing' is explored.

Implicit in the operation of TD and prevalent in informants' normative ideas are notions of mental images and mind, memory and supplementary memory devices and the importance Ryle (1949, 1979) attributes to 'seeing that which needs to be seen' in the development of ideas. In this connection, Lacan's theory of the Real, the Symbolic and the Imaginary (Bowie, 1991; Chaitin, 1996) are used to explore further the ways informants describe the situatedness of their drawing practice and its social and subjective dimensions.

In the further development of the dialectic between language and drawing, the para-text of certain writers is compared to what is described as the *textire* or weave of TD. A central metaphor employed to describe TD is borrowed from an essay by Walter Benjamin (1995) on the writing processs of Proust as a 'Penelopewerk' (Penelope work), suggesting the weaving and unweaving which is the essential movement of TD. This process is facilitated by the fact that very often the drawing surface is already 'undone' by previous use: hence TD done on the envelope, the back of correspondence, on hotel notepaper etc. The theories of Winnicott (1991) and Ogden (1992, 1994) provide a view of the 'dispensibility' of the TD object which a number of informants describe as an essential condition of TD as a 'value free zone'. Following both Winnicott and Ogden, the 'destruction' and eventual 'survival' of TD in the workspace are related to the acquisition of the symbolic function in childhood. Interview material from two informants and archival material concerning early transitional object relations is looked at in the light of the constitution of the subject's 'potential space' in which, according to Winnicott, all subsequent creative activity has its origin.

Although in agreement with Kress that education tends towards the eradication of multi-mode object use, it is my contention that this re-emerges in the social acquisition and internalization of the TD disposition in response to the immediate tasks encountered by the artist and designer in the context of collaborative problem solving. Interview material from informants illustrate the importance of drawing as 'a bridge' between people, ideas and points of view. The shared understandings of 'interpretive communities' embodied in the trans-individual conventions of

TD genres are embodied in this context. These genres, however, because of the levels of indeterminacy which they involve and the transitional, tropological moves inherent in the operation of TD, allow for the development and negotiation of subjective positions within the collaborative group context.

The notion of habitus as something inscribed in the body by past experience is explored in terms of a notion of 'the thinking hand', bodily alignment and the gaze, as well as the 'seeing' of materials and space which informants state that certain drawing modes and media produce. This constitutes an important modification of my initial theoretical orientation based on a relationship between language and drawing. The 'embodied' nature of TD is not independent from the signifying context of language, but has a concreteness and sensuousness and a relation to objects which the language paradigm does not help us to understand. Stimm's use of Chinese ink calls forth more than an idea of the material he will use in a sculpture; it directs him towards the actual piece of wood and its texture and density. This sensuous materiality, which is presenced in the ink, cannot be left out of an account of TD. This produces a view of language as part of the continuum of signifying practices of TD, that also include object relations, but which resist linguistically borne meanings. This is an aspect of the research which emerges from the agent's relationship to the workspace, where meaning inheres in material items and their configurations.

The theories of Bakhtin and Vygotsky on speech genres, dialogic interaction and internalisation produce the all important understanding of TD as first acquired in the social context and then internalised to produce

personal agency and an endless process of mutual determination between habitus and field.

Another narrower dialectic is the one between 'presencing' and 'absencing' (Bhaskar, 1993) in the drawing process itself, which is related to the drawing conventions implicit in TD. In this connection, the dialectic between convention and innovation is explored. Presencing and absencing is also operative in the positioning of TD in the workspace. Thus, the TD object is situated at different depths of retrievability and in a complex relationship to the changing configurations of objects and materials. Stimm's work space is analysed as an example of this.

The dialectic Goldschmidt (1991) observes in the study drawings of architects and the operation of the tropes of metaphor and metonymy described in Herbert (1988) (which are particularly evident in the work of my informants Vander Weele and Kanfer), are given a new slant in this study of TD. Operational affinities are developed between metaphor and metonymy, and the exploration of the unconscious paths of condensation and displacement in Freud's dream-work as forms of transfer and movement: affinities which provide a different reading of Derrida (1978) on Freud and the role of the supplementary memory device. The role of repetition with variations is dicussed and the function of ambiguity and indeterminacy.

The initial intermediary link between language and TD is broadened to a link with the social collaborative context in which TD is acquired and used. The multi-mode nature of TD produces a link to semiotics in which language, particularly the innovative potential of tropes, is only one species of signifying but one which, as linguistic competence

is developed by the subject, is transferred to the operation of other signifying practices (Horowitz, 1995), producing the 'movement of turns' in TD. Finally, the master trope of TD is identified as irony or *parabasis* (de Man, 1997), which brings the study full circle to the metaphor of the 'Penelopewerk' and the 'doing and undoing' of a Peircian Immediate Object in the process of revealing the indefinite or Dynamic Object.

The research reflects the overall influence of ethnographic research and Critical Theory in that it is "concerned not simply with understanding the world but with applying its findings to bring about change" (Hammersley and Atkinson, 1995, p.15). When I apply what has been learnt about TD to education, the problem of what kind of knowledge TD constitutes produces a broadly 'pragmatist' position where knowledge is connected to action and is essentially constructed and re-constructed. Nussbaum's explication of *orexis* and *tuche* (Nussbaum,1986) expand our understanding of the dialectic between subject and process and the knowledge which TD constitutes. The dialogic ingredient in TD is related to Bakhtin's ideas on the dialogic and to Vygotsky's ideas on internalisation and the nature of internal speech.

TD in the educational context is there to be used, not appreciated. It does not possess what Benjamin (1973) described as 'aura' but the kind of interest we show in how an idea was generated and developed. Furthermore, the dispensable, multi-mode and dialogic nature of the TD subjectile innoculates it against the division between mental images and the work of transferring them to paper.

By using the register of transferential drawing as supplementary memory device, the art object or the artefact enters into a new circulation

of meaning related to the pupils' articulations of identity, producing condensations and displacements of meaning in unexpected directions. Finally, the use of TD can produce an awareness that cultural practices, like those of artistic production, can be understood as what Heidegger (1978) described as 'ways-of-being-in-the world.' This produces a view and exercise of creativity as embedded in everyday cultural practices. Such practices involve, as a condition of their effective acquisition and as a dimension of their later use, the Heideggerian concept of 'heeding' (Fiumara,1992) and 'being-with' (Heidegger, 1978); of the collaborative working out of trans-subjective positions. This study attempts to make these practices more legible and to suggest ways to place them within the grasp of pupils in the classroom. The problem of applying what has been learnt from expert practice to the classroom is approached through the notion of a 'school genre' of TD for the pupil in the art /design class.

The comparison made in the study between the paratext (Barthes, 1985, 1994) of the writer and the *textire* of TD is extended to a discussion of practices in education related to drafting procedures (D'Arcy, 1989; Smith, 1982) and other processes which are transitional, such as 'working in rough'. Drafting and TD are seen as' multi-mode' processes which could be acquired and put to more effective use in an approach to education as a 'semiotic apprenticeship' (Wells, 1999). In this context, the role of the teacher is redefined by producing a concept, adapted from Winnicott's concept of the 'good enough mother,' (Hughes, 1989) of 'the good enough teacher'. The role of 'the good enough teacher' is developed in terms of Winnicott's notion of 'Potential Space' (Winnicott , 1993) and Vygotsky's 'Zone of Proximal Development' (Vygotsky, 1994). A

curriculum model is presented which foresees a 'scaffolded' acquisiton of TD moving from 'active' to 'operative' control, terms borrowed from Wells (1999). in which drawing in a dialogic context is the key to the process of internalisation and the effective use of TD as personal agency. In this process, the 'registers' of TD are the key component, while the genres and the background knowledge they involve, are 'shadowed'. TD is positioned between an emphasis, on the one hand of expressive theories of art/design education and on the other of skill acquisition. Finally, the question of the applicability of TD as a strategy which could be 'borrowed' and applied across the curriculum is discussed.

In terms of the contemporary context, the question arises as to whether we are witnessing the demise, or the amplification of what we describe as TD with the inception and development of the new technologies of visualisation and the multi-mode representations of the micro computer. TD would seem to central to be the art and design process in both the collaborative dialogic and the autonomous contexts. If we want to support and improve the ability of pupils to use TD effectively and in conjunction with the new technologies, we need to know much more about this and related phenomena .

Method

To approach the 'puzzle' of TD, it is necessary to collect, interpret and analyse two different kinds of data. The first form of data is the object of the TD, the physical marks on paper, the artefact of the drawing. The second comprises the words that practitioners use to describe and conceptualise their TDs and their TD practice. On the one

hand, we have the documents of the drawings and on the other explanations of their construction, meaning and use. This produces a 'gap' between the density and texture of performance and informants' conceptualisations. In this 'gap,' contradiction expressed as bipolar positions arise which are relative rather than 'clearly exclusive poles'. These are subjected to theoretical development and modification in constant interaction with both forms of data.

If I return to the first form of data, the TD artefact, an argument can be constructed for seeing the multi-mode artefact of the TD as a semiotic 'text'. This concept of TD as 'text' is complicated in interesting ways, not only by its multi-mode nature or rather its openness to multi-mode use, but because, unlike the written text, it is not a finished and complete artefact. The meaning of the TD would seem to pivot on the agent's account of his/her intentionality at the time of its production which very often is in the past. But even this does not constitute the TD as 'a completed historical configuration' because it is always open to re-interpretation and re-use. But what kind of text is the TD? It would appear to belong to the category which Barthes calls 'paratext': a text with a dispensable existence and a provisional identity. Thus, although we cannot conceive of TD as a text along conventional lines, a view of the TD artefact as a species of text or *textire* (weave) is possible if we think about 'text' as a 'trace' of human action, of the durable, although dispensable effects of social time and behaviour, as 'a *document* of human action' (Ricouer, 1991). If we follow Ricouer's definition of hermeneutics as "the theory of the operations of understanding in their relation to the interpretation of texts" (Ricouer, 1991, p.53), then we have

the operation of understanding and explanation (Verstehen und Erklärung) as a 'hermeneutical circle' of dislosure, a "circular process of projection and modification" (Wolff, 1981, p.101). This I also adopt as the principal method used to investigate this phenomenon, organising the thesis as cycles of emergent dislosure constituting a 'hermeneutical circle'. There are two other key elements in my approach.

To look at TD just in terms of its 'texts' would lead to an artificial decontextualization. We need more to go on. The hermeneutical circle is a way of interpreting the physical parts of the puzzle of TD, the paratexts of the drawings. But I needed to enter into the field of TD practice in order 'to encounter others who bear moving parts of the puzzle' (Willis, 2000, p.113). As Deleuze (in Turner, 1998, p.160) states, "No theory can develop without eventually encountering a wall, and practice is necessary for piercing this wall". But, at the same time, an over-emphasis on practice can also produce a wall which can only be pierced by theory.

Thus the second source of data is what informants have to say in front of the paratext of their TD in the context of some observation of their practice. This involves techniques of observing and interviewing people in their:

"...daily lives for an extended period of time, watching what happens, listening to what is said, asking questions- in fact, collecting whatever data are available to throw light on the issues that are the focus of the research" (Hammersley and Atkinson, 1995, p.1).

The research focuses on the relations within and between three main elements: the situatedness of TD practice; the way symbolic

resources are used in this situated practice; and the constituting and constituted relations between practice and the broader social field.

The research rests on a constant interaction between data and theory, and the *metonymy* of part and whole relations where the whole is unpacked from the part and then affects the way we look at new parts. The unwinding, emergent dimension of *metonymy* and the relationship it creates between part and whole, brings into play the third strand of my method: the influence of the 'Constant Comparative method' of 'Grounded theory' (Glaser and Strauss, 1967; Strauss and Corbin, 1998) where progressive conceptual clarification is achieved through the constant comparison of material, ideas and theory.

The reason why the hermeneutic circle is used as the overall structure of the thesis is that it can combine an interpretation of acts as well as text which characterises the ethnolographic approach of interpretation and reinterpretation that broadly constitutes grounded theory. Gadamerian Hermeneutics (Hoy and McCarthy, 1994; Fay, 1996) emphasises that meaning emerges not only from the relationship between the agent and the interpreter, but also between a whole and its parts and various interpretive audiences (Fay,1996).

However, the emphasis in Gadamerian hermeneutics is a centrifugal movement from acts and objects out towards their significance for some community (Ricouer, 1991). In my methodological approach, this is balanced by a movement inwards, a centripetal movement, towards the agent's socially acquired but innovative disposition to act, that constitutes the relationship between *habitus* and *field* as mutually determining.

These three methodological strands, the data collected by using them and what they enable us to create comprise what Bourdieu states is:

"...the effort of research with its tentative beginnings, its sketches,its rectifications, and the specific logic of a practical sense of theoretical orientation... which...advances provisional concepts which construct themselves as they become more specific and are corrected through the facts that they make it possible to produce; all of which happens, insensibly, through successive refinements and revisions..." (Bourdieu, 2000, p.63).

To make this process more tangible, I think it is useful to conceive of each of the strands as involving the operation of a dialectic.The dialectic of the hermeneutical strand looks at TD in the given particularity of the paratext and in terms of its historical development; in the dialectic of the ethnographic strand, the identity of TD is viewed from the standpoint of practitioners and social relations; the dialectic of the grounded theory approach views the identity of TD as a constant interaction between part and whole, theory and data. The dialectical movements within and between the methodological strands produce a pattern of research in a state of transition where each cycle of emergent disclosure involves multi-theoretical perspectives and is part of a more comprehensive process leading beyond it to subsequent cycles of disclosure. Further triangulation is produced by using psychoanalytic, semiotic and art and design theories as well as philosophical and educational theories. The convergence of these three methodological strands and their dialectics broadly influences my method, imagination and ways of proceeding in this research and produces some measure of methodological triangulation. Analysis is used

at the level of individual practitioners' *habitus* and the level of the 'interpretive community' or *field.*

However, a significant weakness of this research is that although some informal observation of pupil drawing in the collaborative context has been carried out, I was not able to observe practitioners drawing and talking but only able to produce a simulation of some aspects of this activity. Another weakness of this research is that much of the drawing I looked at with informants was the result of activity which had ended and whose 'turns of movement' in time were subject to reconstruction. However, this reconstruction of drawing processes had an interesting and unexpected dimension. For Stimm, this reconstruction often produced an insight that the drawing presented a problem or theme which he needed to take up again in an act of what he described as 'züruck greifen', or backwards grasping. In this way, the agent re-interpreted a past object, and this reinterpretation often had consequences for further action and, at the same time, produced a new interpretive orientation on my part. Thus the significance of drawing done in what Bergson calls a 'past present' (Bergson,1988) produced a significance in the present for both agent and interpreter based on the agent's reinterpretation.

The informants were people who reflect on their creative practices. In this very tangible way:

"...social enquiry is a moment of the very process of social reproduction it aims to comprehend. The social world is produced and reproduced in and through the social action of social actors, including the activities of agents engaged in analyzing it'" (Hoy and McCarthy, 1994, p.15).

Stimm stated **'You are the only person I show these scribbles to. It is good, that we talk about this, because through the talk somehow I become more aware'**. Not only did I in some way contribute to the reflective practices of informants, but as an artist and teacher, the process of research influenced the way I operate in these two spheres on a daily basis. For example, once I had grasped the role of the social context in the acquisiton of TD, I shifted the emphasis in classes lower down the school to drawing and talking in collaborative group work in response to an immediate task and, higher up the school, to drawing in dialogue as a response to idea exploration and development. Thus my theorizing is placed at the service of practical questions of teaching and learning.

I cannot escape the conclusion here that this research, while it has not estranged me from my own creative processes, has certainly produced a relocation of these practices in a greater emphasis on transitional processes, material and workspace relations and an increased scepticism towards processes of mystification.

Structure of the thesis and literature review

The thesis consists of cycles of emergent disclosure which form a 'hermeneutical circle' beginning with the historical reflection and closing with recommendations for education. I have adopted the hermeneutical circle to convey my experience of a "continous sense of wrestling with a problem, of answering a puzzle step by step rather than all at once...as an unfolding journey over time" (Willis, 2000, p.118).

The cycles of emergent disclosure which form the circle have been kept chronologically intact, although in the process of writing and re-interpretation, sections within a cycle have been shifted around to create a more logical and interconnected order. The literature search revealed that this phenomenon was little researched. A number of papers which dealt with this subject were discovered, although mostly in the field of architecture. Books that dealt with the broader design process often had a section devoted to this form of drawing. In many design and technology text books there is a short section devoted to initial drawing practices but, generally speaking, I discovered that papers designed for an audience of architects provided the only in-depth treatment of the subject of study and that some of these papers also suggested the connection between TD and language that my historical reflection suggests. Some of the themes which emerge in the study relate to other existing research and this is pointed out where it is relevant. Thus the literature review is spread across the cyclic structure of the thesis, although in the penultimate cycle I look most closely at the most important contributions.

An example of the emergent structure of the thesis is the way the interpretation that art historians have made, concerning the relationship between rhetoric and the visual arts in the Renaissance, is broadened to include the kind of experimental drawing used for project and composition development which I describe as TD. Later, in a new cycle of interpretation, this produces an understanding of the operation of dialectic in TD and the role of negation or absencing, that in its most radical form constitutes the 'positive destruction' of TD- something that up to this point had been seen only from the viewpoint of transitional object relations. In

this way the dialectic between part and whole in the research process produces emergent re-conceptualizations.

In the text of the thesis quotations from other architects, artists and designers, selective transcription of the interview data are used as illustrative material and as a way of showing that the text was only made possible by the interaction between the self and the 'other' which, as Clifford states, constitutes the research text as "a web of intersubjective relations in a shifting matrix of I's and you's" (Clifford, 1988, P.42), producing an "interplay of concrete exemplification and discursive commentary" (Atkinson, 1990, p.82). The combination of the 'voice' of the researcher and the 'voices' of informants, writers and practitioners with the use of diagrams, photographs and drawings creates a degree of textual diversity which is as much a multi-mode object as the TD which it studies.

The hermeneutical circle of emergent disclosure does not produce a final whole but a number of plausible, probable, theoretical configurations gathered around the object of study, a series of temporary condensations not marked by a closure which claims to present ' a picture of reality' but rather by a deferral to a further cycle of interpretation which is outlined in the final section of the thesis entitled 'The way forward' and the 'Postscript'.

Critical reflexivity and strategies of 'distanciation'

In this research I have tried to adopt a position of 'critical reflexivity' by making my commitments, pre-understandings and proclivities a source of critical reflection. This is, of course, a Sisyphean task and it would be

an illusion to think it would be possible to attain to some absolute view of my own point of view. But by a process of critical reflection and strategies of what Bourdieu terms, 'distanciation,' I endeavour "to intensify awareness of the limits that thought owes to its social conditions of production..." (Bourdieu, 2000, p.121). The solution is "not to deny the role of personal commitment in understanding human phenomena but to qualify it" (Ricouer, 1991 p.167). This process of qualification is carried on in my field journals and notebooks. The first strategy of distanciation is to adopt the form of dialectic which negates the givenness of an object or process by:

"...articulating the full rationality of that object's relations with a particular social and historical context, showing how these relations constitute the object" (Eagleton, 1990 p.11).

Thus the function of the first cycle of disclosure, 'The Historical Reflection,' is to generate a 'distance' from the phenomenon by displaying its:

"...lowly origins in contingent historical circumstances, to dispel (its) appearance of self-evident givenness by treating (it) as the outcome of multiple relations..." (Hoy and McCarthy, 1994, p.19).

Another way I gain distance from the phenomenon in the course of the research is to periodically locateTD practices as belonging to the larger field of discursive and interpretive communities and, very importantly for my recommendations for education, to locate TD in juxtaposition to the drafting practices of writers. Thus implicit in the research design is the need to look at TD from multi -perspectives.

Another way I use of gaining distance from my own involvement with TD is to talk to practitioners in other fields who use TD but who possess different background knowledge to that of the artist (or more specifically the painter). This strategy of distancing is designed to produce a 'strangeness' when the researcher encounters the ideas, explanations and drawings of informants. As Kenneth Burke (in Lanham, 1993, p.129) states,"every way of seeing is a way of not seeing". But as Hoy and McCarthy state:

"Some of what we encounter will seem familiar, and some particular things will strike us as being strange and unlike what we had expected. The point is not then to translate the strangeness into something with which we are already familiar (but) to question whether what seemed familiar might instead be hiding further strangeness" (Hoy and Mc Carthy, 1994, p.192).

In order to enter both the 'hermeneutical circle' and the field in the right way involves an understanding of the dialectic between participation and distanciation (Ricouer, 1991). Because the author is also a practising artist who uses TD, the exploratory interviews were, to some extent, based on 'insider epistemology' (Fay,1996). My own practice and a broadly shared set of symbolic resources and conventions served to heighten sensitivity to informants' practice and creative processes and made it possible to "grasp the sense of this experience"(Fay, 1996, p.27). My informants, however, in terms of experience and background knowledge, could not avoid assuming the role of experts, which cast me in the combined role of insider\outsider . As Hoy and McCarthy state: "The key to avoiding both a pure insider's or participant's standpoint and a

pure outsider's or observer standpoint is...to adopt the perspective of a critical-reflective participant" (Hoy and McCarthy, 1994, p.81).

I found that the most effective way of doing this was through the reflective and interpretive writing which took place in the field notebook. This is discussed later.

It was important to be aware of the situatedness of the interviews as an 'intervention' in an otherwise connected world of practice. Thus the interview data, however much it was a product of the informant voluntarily 'opening up', was not regarded as 'reality as such' but as material having a 'bearing' on reality, produced in a particular situation and in need of interpretation. I took what they had to say seriously, but at the same time tried to gain distance from it. This involved seeing the interpretations of informants as:

"... pivotal in determining the identity of the acts whose signifcance is being sought. In this case, the meaning of others' behaviour is not what they mean by it but what it, as understood by them, means for us. In all cases of meaning, therefore, what it means for them and what it means for us are both operative" (Fay, 1996, p.153).

Talking about TD involved informants in disclosure of the well springs of their creative processes and had to be approached with great caution for two main reasons. Firstly my informants all had a position in public life and I had to overcome the superficial responses sometimes given to representatives of the media: some creative people have a tendency to 'talk to posterity' in the interview situation and mystify their creative processes. At the same time, reading Bourdieu made me aware of the gap between my research orientation and the normative beliefs of

my informants. This in turn made me careful to avoid introducing bias through 'epistomocentric questions' which would call for a theoretical disposition on the part of informants (Bourdieu, 2000). On the other hand, Stimm would often volunteer a theoretical perspective based on his wide reading and his deeply reflective approach to his own creative practices. In the case of the female artist informant, a more serious ethical problem arose. In the second interview, she expressed the feeling that disclosure of her drawing practices might produce estrangement from her own creative practices and this might well have been the reason why she discontinued the interviews. I did not pursue the matter as I worked on the ethic that informants were free to terminate the interview process whenever they wished and without giving a reason. The important lesson I learnt from this was that some people are quite justifiably sensitive to intrusion into their creative processes and that the resultant data is highly sensitive and must be handled with great care, particularly where the researcher is perceived as having 'insider' status, which was my case *vis a vis* this informant.

Pilot Interviews

Initially four pilot interviews were conducted. My total population was relatively small and therefore, with the exception of an artist print maker, people were chosen who, though relatively inexperienced, were working in the fields of my main enquiry: sculpture, art, architecture and graphic design. The reason that I did not use the print maker in my main enquiry is that I wanted an even gender split which would render the female creative 'voice' audible; however, as things turned out, the voice of

only one woman is heard. My pilot interviews were conducted with two females and two males: an Austrian artist and a Japanese architect who was a former student; an American graphic designer, also a former student, and the print maker who was British by adoption and who I had got to know as a 'visiting artist' in my classroom. I also interviewed a technology teacher on the TD process in technology. This interview was recorded but for the other pilot interviews notes were taken. Although I did not transcribe the interview with the technology teacher, what he had to say reflected the problem my own students had with learning TD. Later my main informants reported never having learnt TD in any formal context that they could remember. This produced one of the big 'why' questions and opened the way for the idea that TD is acquired in the same way as speech genres, and only through the internalisation of its use in the social context is it turned eventually into an effective personal agency as a 'scheme of habitus'. All informants in the pilot interviews provided drawings. The pilot interviews with the printmaker revealed the importance of interviewing people with long experience and high professional status who could provide me with examples of best practice.

Main informants

The choice of main informants (see Appendix A) was based on people who were successful in their fields and who had some form of contact with the school in which I work and could therefore be approached relatively easily. I also tried to approach two people who had no connection to the school but failed to gain access. Through the connection to the school, either as a parent or as a visiting artist, access was gained to the American graphic designer, Linda Vander Weele, the Austrian/British architect Robert Kanfer and the Austrian sculptor Oswald Stimm. Later Stimm made it possible for me to interview the Austrian sculptor, Gerhard Mosswitzer. A parent introduced me to the architect Johannes Spalt, and access was gained to a female artist through the auspices of a mutual friend. In this initial process I experienced the importance of 'gatekeepers' in the access to informants (Hammersey and Atkinson, 1995). I should also mention Prof. Dr. Viktor Mugourov, the Deputy Director General and Head of the Department of Nuclear Energy of the International Atomic Energy Agency (IAEA) in Vienna who, in unrecorded informal conversation, provided me with some examples of his diagrammatic drawing and some very useful information on the drafting devices of Pushkin. All informants were sent a copy of their interview transcript and these were returned with some typographical changes, a recent photograph and biography and written permission for me to use their names in the thesis and reproduce their drawings.

The interviews

To conduct the interviews, one month's leave of absence was granted by my employers. The main fieldwork was conducted in the month of September 1997. During this month I interviewed each informant four times with the exception of the female artist, who was only available for two interviews. The interviews were conducted in the following settings: in the inside and outside area of Stimm's workspace, which is one studio among a number made available to prominent sculptors by the Austrian state; in Mosswitzer's studio in the same area; in Spalt's office in central Vienna with its view of Baroque church towers; in Vander Weele's dining room adjacent to her spacious office; in the dining room of Kanfer's house and in his study. All the people I interviewed were still active in their fields and Kanfer, although retired, still works on various design projects. Later in the study, the role of drawing in relationship to the workspace became of great importance and I returned to Stimm's studio to develop this direction. In fact, after the initial interview process was complete, I repeatedly returned to Stimm. The reasons for this are that I wanted to stay in the field longer in order to deepen the inquiry and I wanted to get a response to questions and problems that arose in the emergent disclosure process.

Time restraints made it impossible for me to return to all of my informants, as I had wished. I had worked together with Stimm for a period of two years as a 'visiting artist' and built up a high level of rapport while at the same time, not being a sculptor, I constantly had to ask follow-up questions to make sure I had understood the concepts he used in his drawing. Further to this, Stimm's workspace was of great interest

with its continuously changing configurations of materials, finished work and work-in-progess. During the interviews, Stimm would often retrieve either drawings or pieces of sculpture to illustrate some point in his conversation and frequently produced works and published material related to other artists he knew of or had known personally. On a number of occasions, Stimm allowed me to take photographs of him and his studio and on one occasion a visitor took photographs of both Stimm and myself in his studio (see Appendix D). Looking at drawings made by my informants was the main activity of all the interviews, with perhaps the exception of Spalt, who only sometimes referred to actual drawings in the interviews. All of the informants, with the exception of Spalt, drew at some point during the interviews. This was often the case in the interviews with Vander Weele and Kanfer, who drew on pieces of paper which I was always allowed to keep. Stimm drew less but when he did, then he did so directly in my field notebook, in which he also sometimes wrote as did Spalt on one occasion. I was allowed to make photocopies of originals and Stimm often allowed me to keep original drawings. These drawings form the greater part of the illustrative visual material in the Figures which come after the Appendices.

I noted that when informants drew, particularly Kanfer and Vander Weele, it was done quite unselfconsciously. This may have been related to the extent or frequency with which our informants drew in a collaborative context and it gave the interview situation a dimension of participant observation.

An important aspect of the situatedness of the interviews was the question of 'impression management' (Hammersely and Atkinson, 1995).

Stimm would come towards me on his bicycle (riding without holding the handle bars at the age of 77) dressed in the clothes he worked in; all other informants dressed in a semi-formal way and I was careful to observe a high degree of awareness about 'self presentation' in each case, though less so with Stimm.

The interviews themselves were all recorded and later selectively transcribed. On one occasion, owing to technical failure, I had to take notes, and in the last interviews with Stimm before leaving the field, notes were taken, partly because we seemed to be going over ground already covered and partly because of time constraints. The advantage I found of note-taking was that I could refer to them during and immediately after the interview when I could develop them into initial interpretation.

In order to help informants orient themselves, I gave them an explicit account of the purpose of the study. The interviews themselves were unstructured and came quite close to a normal conversation situation. I usually went to each interview armed with a provisional agenda of questions and problems but I used these to guide rather than structure the interview process. This agenda was based on interpretation of the previous interview and issues and problems that had arisen in interviews with other informants. See Appendix B for an example of such an interview agenda.

As these were exploratory interviews, not subjected to 'conversation analysis,' I did not use complex notation but instead devoted my limited time to the translation of the selective transcript material from the interviews with Stimm, Mosswitzer and Spalt. I have a fairly good working knowledge of German but verified my translations with my wife,

who is a teacher of German and a native speaker, and my daughter who is a bilingual English and German speaker. (Samples of the transcript material can be found in Appendix C).

Informants showed interest in the research process and its eventual outcome and two suggested that I might contribute to publications about them in the future. Often after I had turned off the tape recorder, I was shown the hidden recesses of a studio or an informant's collection of artefacts, models, works and publications. Stimm would often talk about a forthcoming exhibition or the development of a new piece of work. During the course of the research, Spalt had an all encompassing retrospective exhibition of his architectural and design work in the Academy for Applied Art and a long interview was featured in an architectural journal (Tolmein,1997); a very large volume of Mosswitzer's work was published (Breicha, 1999) and an exhibition of some of his major work was held at Vienna's Schwechat airport; a long interview with Stimm was broadcast on Austrian radio and he featured in a television broadcast. Stimm also exhibited in Argentina, Austria and Germany, organized an exhibition of contemporary African art in Badennear Vienna, and from January to March 2001, took part in a sculpture symposium in Egypt. These events and publications made it possible for me to gain a view of informants' work in the broader cultural context.

The role of the field journal and notebook

After each interview event, impressions of rapport, comments and 'atmosphere' along with comments on my role as researcher and on approaches that might be tried out later, were made in a fieldwork journal

and later in field notebooks (for excerpts from these books see Appendix B). In the interviews I always noted adherence by the informant to a 'normative principle', for example the principle that ideas should first of all form in the mind, and that all that was then necessary was to transfer them to paper; or the view that one has mental images that operate rather like a private theatre or cinema performance; or that drawings were done on scrap pieces of paper for economic reasons, or simply because the drawings themselves were of no value as such and could not be moved from place to place. Ideas such as these generated some of my most useful 'why questions' and contradictions, which in their turn produced interpretations which guided further data collection and the search for new theoretical literature.

During my main period of data collection, interviews were carried out in the morning and the afternoon was spent writing up notes and observations. There is a constant interaction in my nine field notebooks and three fieldwork journals between empirical data and theoretical ideas, often consisting of a quotation from the interviews or just some 'sensitizing concept' (Hammersley and Atkinson, 1995), like Vander Weele's concept of TD as a 'bridge'. But at the same time as these notebooks were in use, I continued to carry on work in the notebooks devoted to my artistic activity, and five of these large notebooks were produced in the period from 1997 to 2001. An interesting theme for a future paper might be the interaction between these books and the field notebooks and/or the field notebook as an example of multi-mode transitional processes.

In addition to the notebooks, a series of four teaching notebooks also exist, with observations about teaching practice and ideas and

samples of student dialogue. After the period of fieldwork, the time constraint of full-time employment meant that I turned from working in the fieldwork journal to writing in field notebooks on a daily basis and usually in the early part of the morning from 6.30 to 8.00 am. Evenings were devoted to reading the field journals, transcriptions and theoretical literature in search of new interpretations and relations.

In a very tangible way, the field notebooks operated rather like the artist or designer's note/sketchbook, situated somewhere between the work in progress and ideas derived, or interpreted from the real world, and replete with abandoned directions and false leads. Jackson, (in Van Maanen 1995), makes a very interesting contribution to our understanding of the role of the field notebook. Jackson brings out the role of the mediation between memory and the interaction which the field notebook represents and its role in triggering new analysis. I concur with one of Jackson's interviewees who stated that "half the work is sifting through these notes and creating something out of it" (ibid, p.63). Jackson comes very close to describing field notes in some of the ways I have described the dispensable TD.

'Model, insights and writing'

Clifford states "That on the basis of our transcriptions a potentially endless exegetical discourse can be generated" (Clifford, 1988, p.86). However, in order to facilitate interpretation, once the interview process was complete, the data were broken up into smaller and more manageable blocks, usually based on the indentification of bipolar positions. As Hammersley and Atkinson state:

" What we treat as data are necssarily synecdochal. We select particular features and instances, identify them as somehow characteristic or representative of places, persons, or events. We endow particular fragments of observed or reported life with significance, precisely in the way we choose and present them as examples, illustrations,..." (Hammersley and Atkinson, 1995, p.248).

On reflection, it seems to me that analysis began with the first notes I jotted down in front of a collection of Heyduk's drawings in the Museum of Applied Art in Vienna and continued through the fieldwork phase, where I constantly shifted backwards and forwards between data collection, interpretation and analysis. The three methodological approaches I have mentioned influenced analysis more in terms of rules of thumb than strictly observed procedures.

In the diagram below (Fig.1) the central circle represents the various data which is in constant interaction with the bipolar positions

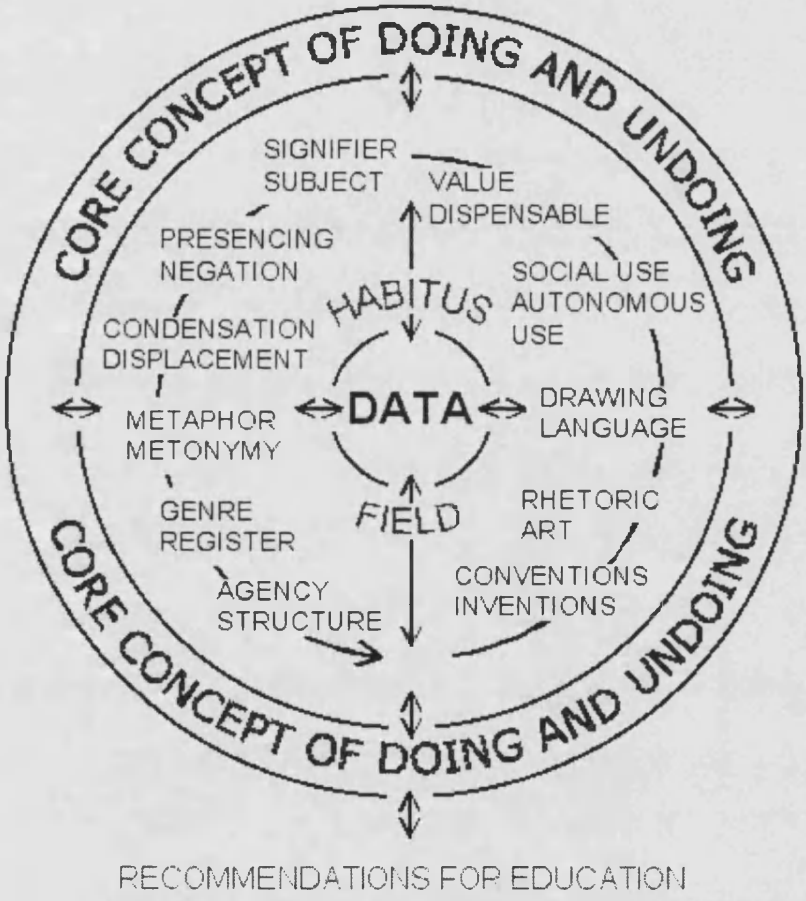


Fig.1

which form the Hermeneutical circle of emergent disclosure.

It is important to point out that the circle in the diagram does not show all the bipolar positions that emerge in the thesis or their exact order of emergence in the individual cycles, but represent some of the main configurations which appear several times in the cycles and undergo

progressive refinement in a process of conceptualization and reconceptualization, emergence and re-emergence, with additions, variants and modifications. It is from within this movement that the sub types or 'registers' of transitional drawing (transferential, transformational, transpositional and transactional) emerge. Bourdieu's concept of habitus and field is positioned between the data and the hermeneutical circle as an explanatory link between the theoretical orientations of the circle and the data. The hermeneutical circle commences with the disclosures of the Historical Reflection which produced the link between TD and rhetoric and closes with agency and structure. In the outer circle I have positioned the core categories or concepts of 'doing and undoing' and 'presencing and absencing' which represent the operation of trope and dialectic in TD. These 'core concepts' fulfil the criteria which Strauss and Corbin (1998) produce: all the bipolar positions can be related to them; they appear frequently in the data; they can be applied to the development of a more general theory of transitionality in terms, for example, of drafting processes; their explanatory power has emerged throughout the research process; and it can explain variation and contradictory cases like Mosswitzer's drawing process which begins with a systematic plan (adapted from Strauss and Corbin, 1998, p.147).

The role of 'insight' in the analytical process is very important and difficult to describe in any systematic way. Insight is, in a sense, a non-methodological moment which combines with the methodological movement of explanation, interpretation and analysis. However, "insights do not just occur haphazardly; rather, they happen to prepared minds during the interplay with the data" (Strauss and Corbin, 1998, p.47). An

example would be the sudden insight I had into the role of absencing and presencing in the work space as I shuffled through a pile of drawings in my studio, or the insight I had on reading the letters of Freud to Fliess (1985) of a possible affinity between unconscious processes of condensation and displacement and the operation of tropes in TD. Certain metaphors also played an important role. The most important of these, the 'Penelopewerk' finally led to the master trope of TD, *Parabasis* (or irony), which emerged by means of a quite unexpected theoretical link (de Man, 1997). The 'registers' of TD were slowly developed through the cycles of emergent disclosure. An example of this is the register of Transpositional Drawing which rises from the very rapid drawing which contains all essential information. This took me up a number of theoretical blind alleys until I discovered Derrida's use of Lacan's term 'Transpositional' to describe a high level of condensation and displacement (Lacan, 1977, p.160).

I have already mentioned the central role of the field notebooks in the writing/analysis process. I made a copy of my chronologically organized fieldnotes and organised these in terms of themes and categories. From my readings in theory I added to and modified these notes and cross referenced them to the selective transcriptions of the interview material. The resulting ideas were recorded on index cards which made quick retrievability possible. This was developed into an emergent framework for a cycle of disclosure. I expanded this framework into a first handwritten draft in what finally amounted to thirty two sixty page A3 exercise books cross referenced to my data analysis, theoretical notes and transcription material. In the exercise books I left a blank page

beside each written page for interleafing and additional analytical and theoretical notes. Both notes and draft were continuously subjected to a process of addition, revision and re-organization. This involved a great deal of sifting, selecting, "segmentation, and disaggregation" of the original data (Hammersley and Atkinson, 1995). The actual writing of the research text involved a second phase of interpretation and a renewed process of analysis and understanding.

Although transcriptions, reports, papers, etc., were stored on word processing software on the micro computer, I found that I could not write creatively on the micro computer and that its use to transcribe the handwritten paratext produced a further level of conciseness and clarity.

Although I did not make use of qualitative data or analysis, I did not dismiss the possibility of its relevance in a context where it would have enhanced the study. On a visit to the studio of the German sculptor Gunther Ueker in Düsseldorf, I decided that one of the most useful things I could do was to count things, and I made an inventory of objects in different areas of his work space and then did the same in an art teacher's classroom in Amsterdam. This was very revealing in terms of the role of different objects in different parts of the work space and is an approach I shall develop in future research.

First Cycle of Emergent Disclosure

The Historical Reflection

Introduction I hesitate to describe the contents of this cycle as historical research but prefer the term 'reflective historical enquiry' or

'historical reflection'. Obviously no attempt can be made to do more than indicate certain points of reference and to project the principal lines of development along which Transitional Drawing developed. I can only partially disclose the socio-historical situation in which the drawings appeared, but some attempt is made to look at the drawing activity of individual 'artist-engineers' within some of the social and intellectual trajectories which influenced innovative practice and might account for the transmission and proliferation of transitional modes of drawing. Panofsky sets the orientation of this enquiry

when he writes:

"...an innovation... necessarily presupposes that which is established... as a constant in relation to which the innovation is a variable. In order to decide whether or not an 'individual's solution' represents an 'innovation' we must accept the existence of this constant and attempt to define its direction... In order to decide whether or not the innovation is influential we must attempt to decide whether or not the direction of the constant has changed in response to the variable" (Panofsky, 1972, p.2).

The historical reflection is based primarily on secondary sources and attempts to locate the type and development of drawings I identify as transitional. This has been done in the first place to dispel the appearance of the self-evident givenness of transitional drawing by treating it as the outcome of multiple relations and historical development. In this I am following the practice of critical theory, in which the guiding principle is to grasp the full significance of an idea "by viewing it in the context of the

social practices in which it figures and by studying the genesis, structures and functions of its practices" (Hoy and Mc Carthy, 1994, p.19).

Part of the problem is that drawings from the past are bereft of the comment of the draftsman. The material can only be approached through ideas and frames of reference that exist in our own time. Thus, in order to grasp some of the specifics of transitional drawing, I have deferred an initial definition in the belief that an historical reflection would, in part, produce an understanding of the nature of transitional drawing and help to uncover the basic structure, functions and form and some of the social and cultural dynamic in which it was developed and has proliferated. A very important part of this cycle is devoted to the relationship between rhetorical devices and the visual arts, a relationship of central importance which I believe is carried over in specific ways to the practice of TD.

I have attempted to construct a bridge from the worlds we do not know to the world we do by referring to the work of some eminent artists of this century whose drawing practice is transitional. The boundaries I have drawn around the various relations are far from being definitive, but try to depict formative processes of different kinds both in the development and in the transmission of transitional drawing.

What Renaissance ?

Drawing has its own independent pictorial language with many very special forms of expression. The role of this medium in the generation and modification of ideas, and thus in the creative process, is of special importance and encompasses what we have termed Transitional Drawing: this form of drawing makes it possible to unfold ideas and to test them and

can be seen as a visible form of thought. It is in this sense that TD developed in the Italian Renaissance where it was a central part of the concept of Disegno. During this period, drawing developed as:

"...a route to scientific knowledge (ein wissenschaftlicher Erkenntnisweg).. and at the same time a decisive...working methodology for the creative development of projects in painting, sculpture and architecture" (Westfehling, 1993, p. 11).

The concept of the Renaissance, which once featured in nearly every treatment of European history, is now not just considered ambiguous but perilously close to being empty of meaning. I shall not enter the debate around this issue in any detail but refer the reader to what I believe to be the most searching analysis of this question, Panofsky's book 'Renaissance and Renascences' (1972).

Panofsky recognizes that it is probable that agreement will never be reached as to precisely when one period stopped and another started. To elucidate this problem, I remember working in a local government office in the 1960s which had two massive punch card 'computers'. Did they mark the advent of the computer age or the age of information technology? As late as the 1970s, computers were still not in evidence in either offices or shops. Can we put our finger upon the precise moment in time when computers began to come into evidence? What we perceive is that a great change has taken place but we cannot pinpoint its beginning with any certainty. Does the quality of this change justify the assertion that we are now well into the computer age or are we still at the stage of inception of this innovative technology? Will later generations date the beginning of the computer age to when the internet became fully operative

in all commercial and other institutions and e-mail has all but replaced the letter? We begin to realise that debate on this issue, which is so close to us in time, becomes very complex and involves many different perspectives. How much harder then to fix the inception of an innovative form of drawing which took place centuries ago and to some extent, although widely used, has gone unnoticed. Panofsky states:

"A change of direction implies continuity as well as disassociation...(but)... a period may be said to possess a 'physiognomy' no less definite, though no less difficult to describe in a satisfactory manner than a human individual" (Panofsky, 1972, p.3-4).

Given the distinct 'physiognomy' which he states can be attributed to the Renaissance, it was nevertheless 'linked to the middle ages by a thousand ties.' Panofsky makes the point that the heritage of classical antiquity had undergone minor revivals before the great revival we call the Renaissance but that these were limited and transitory while the Renaissance was total and enduring. But at the same time, there is no precise dividing line between medieval and Renaissance culture, although by 1500 the concept of the great revival had come to include nearly all fields of cultural endeavour. Its salient feature is the 'notion condensed in Horace's *'ut pictura poesis',* that an analogy, even a natural affinity, exists between poetry and the visual arts' (Panofsky, 1972, p.11). This was part of a gradual expansion of humanistic concerns from literature to the visual arts involving the slow adaptation to visual art of classical rhetoric (for the origins of this comparison in Ancient Greece and Rome, see Pollitt, 1990); the most important aspects of this was 'invention', 'composition' and 'disposition' which later merged into the decisive concept of 'disegno',

producing a rational system for the organization and judgment of form. Thus Panofsky concludes that:

"There was a Renaissance which started in Italy in the first half of the fourteenth century, extended its classicizing tendencies to the visual arts in the fifteenth century, and subsequently left its imprint upon all cultural activities in the rest of Europe" (Panofsky, 1972, p. 42) .

Disegno

In this section I will focus on the concept of Disegno and how this concept relates to the origin and development of transitional drawing.

Disegno has a wide range of meanings related to drawing. As Westfehling states, "the word can stand for draft (Entwurf) or plan...Michelangelo described it as the source (Urquell) and soul of all forms of painting and the root of all science"(Westfehling, 1993, p.75-76).

Disegno was the agent of the judgment of the eye and implied the ability of the senses to make judgments, thus making of perception a judgmental activity. In the middle of the 16th century, Disegno was given two meanings: 'drawing as practical activity (praktische Tätigkeit) and as concept (Begriff) (ibid, p.77). Both Gombrich and Summers have identified Leonardo da Vinci as giving form to that order of Disegno which became a mode of hypothesizing, the form of drawing which I have designated as TD, giving drawing a new role in which:

"Effects had to be tested, details worked out, emphasis and connections worked on. In the free play of creative impulse and in the informal nature of the whole process (ganzen Vorgangs) lay a great

flexibility of creative thought, which must have had a very stimulating influence" (Westfehling, 1993, p78).

This sensory agent of judgment, Disegno, as Vasari tirelessly repeated "is improved by practice..."(Summers, 1990, p.75). Federico Zuccaro formulated what is regarded as the most complete theoretical development of the idea of Disegno. Zuccaro was the founder of the Academia di San Luca in Rome and his treatise *L' Idea de' pittori, scultori e architetti* was, according to Summers, "by far the most systematic of Renaissance treatises on art" (Summers, 1990, p.283). This work is thoroughly Aristotelian in its emphasis on 'formative process' and the Aristotelian idea that there is no mental activity without a mental picture. According to Zuccaro, Disegno is the creative force of the human mind. Zuccaro divided Disegno into two parts and, by doing so, makes of Disegno a paradigm for human thought in general. The first part is described as 'Disegno esterno' and means drawing. The other part he describes as 'Disegno interno' which is the province of the senses, imagination and memory, and it is this part which is both perception and conception. Summers summarizes Zuccaro's Disegno interno as being what Aristotle called "the place of forms... where the operations of apprehension, composition and division and discourse" have their origin (Summers, 1990, p.297). It is closely related to the capacity of the intellect 'to form one image from many.' Zuccaro identifies Disegno with the intellect and imagination and cognition. However, he does not draw a clear borderline between practical and speculative intellect, and posits an interdependent relationship between imagination and intellect. Zuccaro suggests a two-way process in which the intellect governs imagination

and imagination, through the visualization of the mental image in drawing, nourishes the intellect. For Zuccaro, the fundamental element of drawing is the line, 'lineamento', which is "simply the operation of forming something... It is called Disegno because it signifies, shows sense and intellect the form of the thing in the mind, and impressed in the idea" (Summers, 1990, p.301). Thus drawing, through initial lines and progressive definition, gives the intellect a concretization of the mental image to work on and assimilate. The reciprocity of this process creates 'a new experience for the intellect'. Zuccaro claims for drawing a speculative dimension to which physical activity of drawing and the concretely visible are integral: "the eye finds more than the mind knows, and the hand draws more than the mind knows"(ibid) .

New drawing conventions

The main vehicle of TD was the sketchbook as it was used in the artist's workshop. Westfehling describes the importance of the sketchbook as a "form resource, experimental field (Versuchsfeld) and developmental instrument" (Entwicklungsinstrument) (Westfehling, 1993, p.79). Thus the sketchbook with its drawings became the focal point of discussion of ideas and their modification. Drawing became an instrument both of guidance, interaction and control because it provided the means to discuss and illustrate ideas and changes, as well as a means to check changes and mistakes and to introduce corrections.

There is evidence that sketchbooks were in use before the period we describe as the Renaissance, and there is the suggestion of a correlation in the Renaissance, between the sketchbook and the

'commonplace book' in which students studying analysis, genesis, and literary composition would enter products of individual reading, and notes on style for future use, on the grounds that they would, as Bacon stated (in Dixon, 1971, p.48) "ensure copies (copiousness) of invention"

That the medieval architect made use of sketchbooks is apparent from the sketchbooks of Vullard de Honnecourt. His drawings provide evidence of an interest in mechanical devices, geometrical schemes for drawing human and animal forms etc. An X-ray of a drawing by Honnecourt (in Bechmann, 1993, p.221) reveals that each successive change in the design had been erased and the final solution clearly outlined. In the drawings by Honnecourt, although we know that a change has taken place there is no willingness to be tentative, completeness seems to be all, whereas in the drawings by artist-engineers of the Renaissance, the design emerges from alternative models. But there is more to the comparison than this: "there was in the middle ages a paucity of diagrammatic vocabulary for the communication of technological ideas" (Edgerton, 1991, p.113). Edgerton uses an example from Konrad Keyser's Bellifortiss (1405) where it is evident that Keyser was still unable:

"...to translate his romantic concepts into images that encouraged practical construction...his drawing gives no clear understanding of how one level of parts connects in depth to another" (Ibid, p.119).

By the time Leonardo da Vinci did a drawing of a similar, if not the same, machine in about 1490, there was already a vocabulary of pictorial conventions in place which had begun with Brunelleschi's perspective drawing method. That Leonardo did his reading of Keyser's book pen in hand without indicating the original source of his idea was not unusual.

Bramly, writing about another Renaissance artist-engineer Valturio, states, "...he had himself borrowed much from Taccola, from Konrad Keyser and from Vegetius ..." (Bramly, 1991, p. 27). In the Renaissance copying was used to:

"...record, to interpret, to criticize and to learn. Each copy constitutes a dialogue between the interpreter and the interpreted; this dialogue fosters new solutions to problems shared by the two artists and creates new ideas" (Haverkamp-Begemann, 1988 p.1).

The idea of copying took on new force in the Renaissance as the *il primo motore* of cultural innovation as copying implements the processes of choice, judgment and synthesis outlined by Quintillian and Seneca in their writings on rhetoric. When Leonardo reworked a copy, the result was sometimes an invention in its own right.

The new drawing conventions were major innovations introduced by artist-engineers such as Taccola, who provides us with the "earliest example of what modern engineers call the 'exploded view' " (Edgerton, 1991, p.128). Taccola is also credited with the first instance of the cutaway and transparent view, both of which "permit us to understand how internal structures look without the need to build three-dimensional models" (ibid). These devices and many others can still be found in handbooks for appliances and do-it-yourself kits (See van der Waarde and Westendorp, 1999). But what is meant by the expression, 'artist-engineers'?

According to Derry (1979), a great deal of attention to engineering came into the scholarly studies of ancient buildings. We know, for example, that Brunelleschi studied the Pantheon for 12 years before

embarking upon the dome in Florence (Cronin, 1967), thus many of the people who actually planned and supervised engineering works were artists or architects of one sort or another. For this reason, the Renaissance has sometimes been characterised as a period of 'artist-engineers' or 'artist-technicians' (Derry, 1979). Taccola was one such artist - engineer, as were Brunelleschi, Leonardo da Vinci and Francesco de Giorgio. "Francesco di Giorgio fully understood the power of drawing as a method of thought experiment" (Edgerton, 1991, p.131). As Bramly states of di Giogio's variations of a pumping device:

"What we have here are thought experiments worked out solely on paper... each sketch not only recorded a particular device but revealed otherwise hidden problems he then corrected in further drawings" (Bramly,1991, p.136-137).

Di Giorgio wrote (in Edgerton, 1991, p.138) that drawing is:

" ...the art, more than knowledge and intelligence acquired from books, requires invention... many persons having mentally constructed a building with all the right proportions cannot get it started because they don't know how to show it in drawing either to themselves or to others..."

Back to the drawing board

It is in the Renaissance that drawing becomes the main instrument of what Westfehling calls 'project development' (Projektentwicklung). What I term Transitional Drawing is the idea generation and modification phase of such a 'project development'. In the language of the Renaissance, there were different types of drawing which stood at the beginning of an idea. Westfehling (1993, p.126) quotes Meder as defining

Macchia as the most transitory draft of a thought (Gedanken). *Schizzo*, sketch, is a more comprehensive concept which encompasses both function and form. *Concepto* or *concetto* is what we would call draft (Entwurf). These work-stages (Arbeitsstufe) were used primarily by artists to plan and produce paintings, design buildings and construct theatre scenery. There is also evidence that these stages were also part of the vocabulary of those artists whose main source of income was designing mechanical devices and engineering projects. Galluzzi even suggests that Leonardo's "main source of livelihood came from his work as an engineer in the service of various patrons" (Galluzzi, 1996, p.4). Was it these 'Arbeitsstufe,' with their implied possibility of returning to an earlier phase of an idea development, that gave rise to the expression 'back to the drawing board'.

Hinman (in Westfehling, 1993 p.166) states that this was a period in which there was a "greatly intensified concern with methodology...the result and the process." The method of project development would begin with the *Macchia* followed by first drafts, or the *concepto* or *concetto*, which would round off the planning stage of the work, although there might be necessary changes or corrections before the final *modello* was produced. It would be the *modello* that was shown to the prospective client or patron. The main characteristics of this procedure in design and architecture remain unchanged to this day. Our interest is not in the *modello* but in the type of drawing used in the beginning of this process, the *Macchia* and the sketch or *schizzo*.

There is a problem which arises here in that the sketch can signify both the function of a drawing and the form of its presentation. The sketch:

"...is characterised by the speed and spontaneity of its execution, the word *schizzo* comes from *schizzare*, to splash or vomit forth and from rapid report. The function of the sketch was the rapid annotation of an idea or a sparsely outlined conceptual form" (Westfehling, 1993, p.130).

The sketch can also be a quickly drawn impression of movement, landscape etc., but there is a sense in which the sketch can be seen as an initial or *prima* idea. Koschatzky defines the sketch as:

"...the initial graphic laying down of an idea whether this comes directly from observation, the memory of something seen or the free play (freischaffenden) of the imagination" (Koschatzky, 1981, p.306).

Looked at in this way the sketch opens the way for more and varied thoughts and ideas to develop. In the Renaissance, the sketch would also have been employed in copying the main 'lines' of another artists work. However it is very often impossible to draw the line between what is a sketch, a *macchia* or a draft.

All the forms mentioned in the work process up to but excluding the *modello* are transitional in the sense that they are open to development, change, correction, modification and even cancellation in favour of a completely new starting point. According to Westfehling:

"Raphael developed this 'step by step' process of search and find as an experimental method of error and correction in his workshop practice to an unprecedented level" (Westfehling, 1993, p.140).

An important feature of this system was that "problems already satisfactorily solved could be unravelled again and decisions already made could be questioned. Yet this activity moved towards a goal" (ibid, p.140). Thus implicit in the use of TD is the principle of seek and find, examine and modify; in short, the use of TD to generate and modify an idea but also to completely revise it.

Science and Art

Let me return to the trial and error ingredient of TD, particularly error. Bronowski states, error is "central to all inductive acts and all acts of imagination" (Bronowski, 1978, p.110). His answer to why Leonardo da Vinci's drawings are an advance on those of Honnecourt would *not* be that the one who draws better makes fewer mistakes "because in a fundamental way the one who draws better makes more mistakes" (ibid). The drawing techniques which were given form in the Renaissance were to a great extent based on the exploration of error. Hinman writes: "Extensive and diversified study of the Renaissance has not yet dispelled the widespread notion that science and art were fundamentally opposed in the 16th century...The more nearly historical truth seems to be that artists and 'new philosophers' (i.e., both empirical scientists and what we would now call philosophers) were spiritual allies" (Hinman, 1970, p.149).

The distinction made today between the Arts and Sciences would have been unintelligible to Leonardo da Vinci and his contemporaries. As Panofsky points out, the natural sciences as we know them first emerged when the theorists of art began to record their activities and findings in fields such as anatomy, mechanics, geology and meteorology. "Galileo

owes more to Leonardo da Vinci than to all the commentaries on Aristotle's Physics' and it is in the treatise of Dürer on proportion "that we can witness the birth of German scientific prose" (Panofsky, 1955, p. 244).

The initial lack of any clear demarcation between scientist and artist has its roots in the middle ages when "there was neither the specialization nor the separation of functions that is reflected in our design and operational personnel" (Gimpel, 1988, p.114). In the Renaissance, this lack of division persisted to the extent that Cristoforo Landino could write of Leon Battista Alberti, (in Baxandall, 1988, p.116- 117) author of the first systematic treatise on painting and perspective, that among:

"...the natural scientists... certainly he was born to investigate the secrets of nature. He was geometrician, arithmetician, astronomer, musician... and I have in my possession highly prized works executed by him with brush, with chisels, with the graver, and by casting of metal."

It was an age when Kepler could design the frontispiece to one of his books and Leonardo da Vinci could write a treatise on optics, an age when painting was termed a science and, any "increase in that imaginative freedom we call 'art' demanded an equal intensification of those studies we call scientific" (Gombrich, 1996, p.219). This is not the same as saying that Kepler was an artist and Leonardo a scientist; interests of a scientific nature do not, in themselves, produce science but Leonardo's descriptive and pragmatic explorations, though not strictly experimental, were an "essential prelude to the science of Galileo and Newton" (Hale, 1993, p.564).

Leonardo da Vinci's compositional drawing

Leonardo da Vinci's wide ranging interests, his voluminous notebooks and his few, and often enigmatic, pieces of completed work have given his achievements an air of exclusivity, not only from our world but even from the world in which he lived. One thing that seems to have clearly emerged from recent scholarship on Leonardo is that just as no century, nor period is an island, nor are the achievements of any one man.The extensive technological changes that took place in the Renaissance, and to which Leonardo made such an important contribution, were the outcomes of long traditions. Galluzzi (1996) argues that many inventions credited to Leonardo can not be considered as his; for example the armoured car, the parachute, the diving apparatus etc., were in all probability gleaned from works by other artist-engineers. One thing is certain, however: Leonardo, building upon an already existing tradition and as a direct development of innovations during his time, did produce a genuine reordering of graphic devices in the service of invention.

Gombrich compares Leonardo's style of drawing as represented in the Berenson Corpus of Florentine drawings, to that of:

"...a sculptor modelling clay who never accepts any form as final but goes on creating even at the risk of obscuring his original intentions" and finds "no parallel for such a procedure in the work of earlier artists" (Gombrich, 1996, p. 211).

We must be clear about the prior existence of a related method, which Westfehling states was characteristic of Renaissance 'Projectentwicklung' and which moved from the rapid spontaneity of the

Macchia through various sketches open to correction (korrektiv), to arrive at the more stable form of the study. It is possible that Leonardo took this form and, as he often did, bodied it out in his notebook into a new method. What is the difference between the already existing form of TD as used in 'Projektentwicklung' and the device invented by Leonardo?

Gombrich states that if an "artist did have doubts about which pattern to adopt for a composition he preferred to begin afresh, to draw two or more alternatives side by side"(ibid, p.213). This form of TD is used down to our present day as a sketch which 'explores possible ways of solving a problem'. Thus solutions are drawn and those which will not work are discarded and others gradually improved. This type of TD is significantly different from the method advocated by Leonardo da Vinci in his 'Treatise on Painting' (in Kemp (ed), 1989, p. 222) which reads as follows:

"Now have you never thought about how poets compose their verse. They do not trouble to trace beautiful letters nor do they mind crossing out several lines so as to make them better. "

Leonardo then goes on with advice to the painter to rough out movements without paying too much attention to perfection at this stage. Leonardo's idea is that "drawing has to assume an entirely different character.... reminiscent ...of the poets inspired and untidy craft ..." (Gombrich, 1996, p.214-215). This produced drawings of a much higher degree of indeterminacy than the 'alternative solutions approach'. Fig. 2 and Fig. 3 is a drawing by Leonardo da Vinci in Gombrich (1991) and beside it a manuscript of Keats' 'Ode to Autumn', a juxtaposition which reinforces the link which Leonardo da Vinci brought out between drawing and poetic

composition, although the poem in question is curiously from much later date. Unlike drawing 'alternative solutions', there is overdrawing sometimes to the point of confusion which Leonardo (in Gombrich, 1986, p.218-219) justifies by writing:

"Confused things rouse the mind to new inventions" (though) "see to it that you first know all the parts of the things you want to represent ...draw to give the eye an indication of the intention and the invention ..., then proceed to take away and add till you are satisfied."

If the Renaissance was, as Westfehling states, 'the epoch of drawing' then it was because drawing had assumed a new character whereby, instead of fixing the flow of imagination, it kept it in a state of prolonged inventive flux.

Invention

The status of 'invention' reached unprecedented heights in the Renaissance, far outstripping the interest in the middle ages. This is not to deny that the middels ages was a "dynamic and progressive period when inventions were at a premium" (Gimpel, 1988, p.237). Although Vitruvius' book on architecture was not discovered until 1414 by the humanist Poggio in the monatery of St. Gall, there is much evidence that the interests of medieval architects and engineers were fundamentally the same as the artist-engineers of the Renaissance. The subtitles for Book Ten of Honnecourt's notebooks includes many mechanical devices found in De Giorgio and Leondardo da Vinci (Gimpel, 1988).

What was an intense interest in invention in the middle ages took on dimensions suggestive of an obsession in the Renaissance. Hale tells

us that "di Giorgio's mechanical fantasies were carved into the walls of the Ducal palace of Urbino". At the turn of the 19th century, a similarly incongruous homage was paid to a machine by carving it in stone, only this time the invention in question was the motor car. Both suggest "the difficulties artists faced in transposing the new category of the machine into the conventions of traditional sculpture" (Hughes, 1980, p.12). Such was the furore surrounding 'invention' that Hale (1993) suggests that the comic character of the crazy inventor first appeared at this time so that inventors became, like lawyers and doctors, figures of popular fun, appearing in plays by Ben Jonson and Quevedo. It was perhaps the more bizarre products of this flood of invention which prompted Francis Bacon (in Hale, 1993, p. 564) to write "the understanding must not be supplied with wings but rather hung with weights to keep it from leaping and flying."

The architect of St. Stephan's gothic cathedral, located round the corner from where I am writing this, portrayed himself with dividers and a set square. I am not suggesting that the geometrical preoccupations of the medieval architect and artist, plainly evident in the work of Honnecourt, were not creative. The difference is that the process by which the medieval draftsman reached the point where he could say of his drawing that it was relevant and complete was quite different from that of the Renaissance draftsman. The demand for invention promoted the invention of new drawing devices, both descriptive and critically innovative; the invention of these new devices made the imaginative power of man evolve in new ways. However, this continuum of cause- effect sequences can only form part of our understanding.

TD is free to produce different solutions, sometimes sequential sometimes overlapping, on the same sheet of paper without the appearance of the drawing which reconciles them. TDs in a notebook make available for reflection an archive of trial and error, elements of which are potentially open to reactivation and reinclusion in the search for a solution. Chronologically, these represent secondary happenings hoarded in the pages of the note book waiting for connections, interrelations and coincidental images, all of which can provide the basis for a restructuring of present intention. The transitional drawings of the time constitute a vast corpus of work specifically designed to multiply and engender different views and different directions of an idea. In the restless dynamic of over-drawing advocated by Leonardo da Vinci, we are confronted with a reification of viewpoints in depth. The volatile transitions of Disegno combine to present us with the unique and fecund paradox of Renaissance picturing and thinking, based, as Panofsky (in Fumaroli, 1995, p.173) insisted "on the aesthetic flexibility of the Ciceronian idealist rhetoric... capable of thinking unity and multiplicity at the same time."

Transitional Drawing and Rhetoric

Even in this simplified account, it becomes evident that there is a connection between TD (and other visual art forms) and the rhetoric of poetic and literary composition, and it must be remembered that already "in the middle ages the identity of rhetoric and poetry was virtually complete" (Dixon, 1971, p.52). The subsequent connection between the visual arts and rhetoric forms much of Summer's (1981) exhaustive and scholarly study of Renaissance conceptual language and its application to

art, particularly the art of Michelangelo. This connection is also set out very clearly in Baxandall's book on 15th century painting (1988) and his book on Giotto and the Orators (1986).

In the Renaissance there was a "general tendency... to identify thought and image" (Klein, 1981, p.37). This was a two-way traffic, in that terms from the artist's workshop were used by authors; terms such as *Rilievo* (relief) and others from the classical literary criticism of the humanists were transferred for use in art theory. The two most important of these for our purposes are *invenzione* (invention) and *compositio* (composition).

Leonardo da Vinci's drawing method was intended for composing the arrangement of the limbs and the movement of the body. Leonardo's advice rests on the principle that to create 'varieta' or diversity of subject matter, it is necessary to allow the inventive power of indeterminacy to run its course, leaving the possibility for corrections open to the last moment. Leonardo stated (in Gombrich,1996, p.211)"You who compose subject pictures, do not articulate the individual parts of those pictures with determinate outlines..." This is the poetic logic of imaginative invention and, as Fumaroli states "it implies between literary texts and visual images rhetorical operations ..." (Fumaroli, 1995, p.173). 'Zeno the stoic figured Rhetoric with her hand open' (Croce, 1956, p.189), a hand from which both art and literature fed. This is difficult for us to grasp since, as Barthes states, rhetoric "moribund since the Renaissance has taken three centuries to die" (Barthes, 1994, p.15) and because we live in an age in which visual and literary art have long ceased to share any common conceptual ground.

Leonardo's use of poetic composition as a guide to compositional drawing has its roots in Aristotle's Poetics, which:

"..is not a treatise on poetry but on the art of poetry...and lays down what procedures are most effective, viewing poetical composition from within" (Hutton, 1982, p.6).

To illustrate this, Hutton then quotes from the Poetics: "the poet should make an abstract outline and put in the names later". Leonardo (in Gombrich, 1996, p. 11) wrote, "you who compose subject pictures, do not articulate the individual parts of those pictures with determinate outlines." Did Leonardo get the inspiration for his method of compositional drawing from the pages of the Poetics? This we will never know. We do know, however, that Leonardo was very concerned to raise the status of painting in relation to poetry and wrote a good deal about this subject, in a vein not always sympathetic to the poetic Muse, in his 'Treatise on Painting'. We also know that few artists have thought more intensely and searchingly about their working procedures. In 1498, Giorgio Vallas published his Latin translation of the Poetics and the movement in literature around this:

"...was accompanied by a vast output of critical and theoretical writing, which existed in its own right as a disinterested and philosophical inquiry into the nature of poetry, in which the Poetics came to hold a central position, supplying the major topics of discussion" (Hutton, 1982, p .29).

The Poetics is a book on how to compose poetry and the intensity of discussion around it would have been, by definition, focused upon the inventive activity of the poet. Poetry was at the centre of the arts, "the common point of contact between the liberal and the mechanical arts"

(Summers, 1990, p.26). The interest in the Poetics was the interest in the nature and origin of artistic conception, and inner conception and invention were expressed as much by means of Disegno as by poetry. So far, we have focused explicitly on two forms of transitional drawing: the alternative solutions approach and the indeterminate overdrawing approach, as well as the *Macchia*, which would sometimes set both in motion. The first was developed through a conceptual interaction between workshop practice and rhetorical devices, and the second was invented by Leonardo da Vinci, inspired by the procedures of poetic composition. Another variant of TD, that Panofsky also attributes to Leonardo da Vinci, is the form of drawing which explores and answers the draftsman's question, "if this is what I see, is this the way it works? or 'is this the way I think it works'? or, 'I will think of it this way" (Panofsky, 1962, p. 142). This might be described as a working drawing (werkzeichung) and is related to the working out of ideas and of technical possibilities and problems. However, it is not always possible to distinguish between a working drawing and a study or study drawing. What is clear is that working drawings also possess characteristics of transitionality that I shall more closely define in the next cycle of disclosure.

It was in his seven hundred anatomical drawings that Leonardo produced "new methods of graphic representation" that "qualify not only the form but also the function of all human organs..."(ibid). In the recently discovered Madrid notebooks, this method is carried over to the analysis of machines (Galuzzi, 1996). That Leonardo was aware of the implications of his method for scientific explanation is, evident when (in Panofsky, 1962, p.146) he wrote:

"And you who think to reveal the figure of man in words... banish the idea from you, for the more minute your description, the more you will confuse the mind of the reader and lead him away from the knowledge of the thing described."

Michelangelo's disegno and phantasia

Summers states that "Michelangelo studied Leonardo's inventions closely...and drew from the tradition that Leonardo had done so much to form" (Summers, 1981, p.85-86). Summers does not think that Leonardo invented the compositional drawing method but that, like so much else he came into contact with, he charged it with a new form. Summers does, however, agree that this method was based on "an identification of painting and poetry" and he also supports Panofsky's and Gombrich's view that Leonardo produced a mutational change in the whole process of graphic representation. Michelangelo does not seem to have followed Leonardo's method of overdrawing in the process of composition, but preferred to redraw ideas and to juxtapose different versions of the same thing. In his architectural drawings, he adapted Leonardo's advice to his own needs. Summers takes us through the transitions of one of Michelangelo's drawings (see Fig. 4). This description is of such importance that I shall quote it in full:

"The drawing... began as a slight indication of a double tomb, sothat the reclining figure at the top, rather than being an afterthought, is a survivor of the very first stages. If this is so the paper was soon inverted, and the symmetrical division of the double tombs rapidly gave way to the predominance of the scheme on the right-hand side, the scale of which

expanded as the drawing was worked up. It is evident in the underdrawing and in the sarcophagi at the bottom of the page that the articulation of the two tombs was asymmetrical from the beginning. Such non-repetition seems to have been a spur to invention in its own right." Then, of another drawing: "A pair of sarcophagi...was lightly drawn on the sheet, which was then turned on its left side. A new sarcophagus was drawn with a broken pediment. Finally the page was turned ninety degrees more so that it was inverted relative to the first drawings on the same side. Thus the verso came to match the recto..." (Summers, 1981, p.149-150).

This passage elucidates transitions based on inversion, rotation, combination and transformation, the idea sought out in the process of making, the 'Entfaltung' or unfolding which is inherent in the concept of 'poesis'.

Michelangelo produced a form of architectural drawing which has remained in use to this day and in his drawings and those of Leonardo the far-ranging influence of poetic composition along with the ability to think unity in multiplicity which came from the hand of Ciceronian rhetorical devices when applied to the visual arts, is often in evidence. For both Leonardo, Michelangelo and other artist-engineers of the time, the concept of 'fantasia' played an equally decisive role in the process of invention. During the Renaissance, this concept of fantasy became the focus of considerable debate, in the course of which it became more clearly defined and, losing some of the negative connotations assigned to it by Plato, became more closely allied to intellect.

'The ever incompleted character of being'

Fantasy is a word which is "associated with the superficial and vain" (Summers, 1981, p.106). According to Plato, truth stood above the level of phantasia, while Aristotle repeated the principle that it is impossible to think without a mental image or 'phantasmata'. This gives central importance to the image making faculty, what we would now call the imagination. Aristotle uses 'phantasia' to describe a practical kind of intellect closely allied to the intellect that forms the conception in the mind of the artist. Although I shall attempt to be brief on this subject, some aspects must be addressed as the relationship betweenTD, mental images and the generation of ideas will become an important part of the subsequent development of this thesis.

In the Renaissance, the ideas of St. Augustine were, according to Summers, much in vogue. His position was in part Platonic, insofar as he also thought fantasy was limited because of its use of sensory data, but St. Augustine states (in Summers, 1981, p.109) that he, like Aristotle, saw fantasy as a faculty which made it :

"...*possible for the mind, by taking away some things from objects which the senses have brought within its knowledge, and by adding some things, to produce in the exercise of the imagination that which as a whole was never within the observation of the senses* . " (italics are mine)

Thus fantasy could spin out forms of its own momentum from the forms given by sense, accounting for its central role in the thinking of both Leonardo and Michelangelo about invention.The vehicle of invention was Disegno, drawing, and specifically the type of drawing related to the cancellations and postponement of closure of poetic composition.The

concept of fantasy fitted seamlessly with the connection between poetic composition and methods of compositional drawing. Cennino Cennini, made a comparison in his notebooks between poetic and artistic fantasy when he stated (in Gombrich, 1976, p.112) that:

"The poet with science... is free to be able to compose and bind together...as he please... Similarly the freedom is given to the painter to compose... as he pleases according to his fantasia".

The role of fantasy was further elaborated in Gianfrancesco Pico della Mirandola's book 'De imaginatione' published in 1501, in which the words 'imagination' and 'fantasy' were used interchangeably, attributing to both the ability to "separate and combine forms" (Gombrich, 1976, p.113).

An offshoot of the Renaissance vogue of separating and combining forms to produce fantastic invention is the genre known as Grotesques. Leonardo's fantastic inventions, aside from some of his 'dream machines' confine themselves to the 'grotesque heads', which Gombrich writes about in an essay in his book 'The Heritage of Apelles' (1976). But it is in Michelangelo's drawing that the grotesquerie became of major importance and in which he was "free to invent outside the precinct of natural law" (Summers, 1981, p.138). Bakhtin, the great scholar of the carnivalesque has this to say about the grotesque:

"...there was no longer the movement of finished forms...in a finished and stable world; instead the inner movement of being itself was expressed in the passing of one form into another, in the ever incompleted character of being" (Bakhtin, 1984, p.32) (see also Chastel, 1997).

Disegno was linked, like poetic composition, to license and experimentation. A favoured exercise in demonstrative rhetoric was for

students to "try their hand at rehearsing a series of fantastic impossibilities" (Dixon, 1971, p.56) as a display of resourcefulness (Thompson, 1972). But it is Kayser (in Thompson, 1972) who relates the grotesque to a 'comprehensive structural principle' closely related to the trope of irony; an observation which suggests the very first inklings of something which will lead to the unconvering, in the last cycle of this thesis, of what I believe to be the master trope of transitional drawing. For Michelangelo, the *grottesco* enabled him to work towards, and away from, anthropomorphic shapes, and it was his early architecture *'all grottesca'* that pervaded his later architectural invention.

'A way of enhancing and arousing the mind'

Regarding fantasy and its operations, it is helpful to recall an oft quoted note by Leondardo (in Kemp (ed), 1989, p.22) in his 'Treatise on Painting' concerning:

"A way of enhancing and arousing the mind to various intentions: ...look at any walls soiled with a variety of stains, or stones with variegated pattern, when you have to invent some location... and an endless number of things which you can distill into finely rendered forms"

At the beginning of this cycle I looked at some of the terms used to describe the various stages and states of drawing, using concepts derived from poetics and rhetoric that were, "standard throughout Europe and also familiar to artists" (Kaufmann, 1993, p.155). The most important of these conceptual terms was 'invenzione', which, as Kaufmann continues "was one of the principal parts of rhetorical instruction" which "came to be applied to the theory and practice of the visual arts" (p.156). He goes on

to produce a list of writers in the Renaissance who used this term from rhetoric and applied it to the visual arts. Then Kaufman translates a letter written by Archimboldo in which he describes "drawings he has done: in *grossa maggia* ." Maggia is a loaded term. It is, according to Kaufman, the " Milanese for 'macchia' which is a notion fraught with significance for Renaissance discussions of artistic invention" (ibid, p.157). Kaufman asserts that the concept behind this word can be traced back to Aristotelian ideas of the power of the imagination to project images into such things as clouds (in one of the panels of Mantegna's Triumph of Caesar, housed in Hampton Court and which the author remembers being impressed by as a child, this concept is given pictorial form). Thus we have, in terms of 'invention', two uses of the concept of 'macchia; one being a form of drawing done very quickly with the greatest economy of line and the other an interpretation of the original meaning of the word as 'spot' or 'stain' as a quickener of the imagination. Leonardo may have been the first to suggest the use of 'macchia' in this way but he was not the first to utilise this in his work. Both Botticelli and Piero di Cosimo, according to Kaufman, derived compositions from spumen on walls or images in clouds. Thus the 'macchia' as spot, just as the 'macchia' as rapid drawing, can stimulate and lead the mind on to other sorts of drawing which embody a further development of the idea (See Lebensztejn, 1988).

Postscript: : I am writing this section in an old house with walls three feet thick and no damp course; walls which provide abundant examples of the kind of analogic thinking of which Leonardo wrote about.

Popper, referring to Shakespeare's writing of Hamlet and Mozart's musical composition, states:

"It isn't so that we have first the thing perfect in our mind and then write it down. It is always a process of creating which is like the process of a painter. A painter has a canvas and he may put here a colour spot, and he may perhaps eliminate it. Or he may see that the colour spot alters his whole aim...There is a give and take... Even while we create something there is a constant give and take" (Popper, 1994, p.21) an interaction with the transitive character of marks. This interaction is one of combination, permutation, deflection, disruption, revision and modification. The artists 'spot of colour', the spot or stain on an old wall, the words or notation made visible in the writing process, and the rapid lines of the 'macchia' all start off a process of the 'give and take' of transitional processes.

Disruption and Permutation

The late Francis Bacon, certainly one of the most important artists of the previous century, used the 'macchia' in a way which throws considerable light on the 'give and take process' and the unfolding of strategies designed to stimulate invention in the visual arts. In the interviews with David Sylvester (1980), Bacon talks about practices which he employs to 'disrupt' that which he can do with ease. One such practice involved the random throwing of paint at an otherwise completed picture. This produces blotches of paint on the surface of the canvas which Bacon then manipulated (see Fig. 5). Bacon's self confessed aim was to create 'highly disciplined paintings' in which randomness plays a key role in the

structure of the picture. Bacon (in Sylvester, 1980, p.92-93) suggests that the throwing of the paint:

"...depends very much on practice and knowing the kinds of things that happen when the paint is thrown at a certain velocity and at a certain angle... (and thus) with experience you are more aware of the kinds of thing that are likely to happen when you throw the paint."

Bacon does not concede this but replies that "I very often throw it and then take a great sponge or rag and sponge it out, and that in itself leaves another totally different kind of form" (ibid). Bacon uses this approach to get what he describes as 'a sort of inevitability" which Sylvester describes as "using chance to get a controlled looking result". Bacon, of course, was talking all the while about the medium of oil paint which produces vastly different marks from those of the pen or the pencil. Popper elucidated his idea of 'give and take' between the subject and the materials by equating writing and painting. Fundamentally the question is how marks produce more marks. Bacon states (in Sylvester, 1980, p.97) "... often the tension will be completely changed by just the way a stroke of the brush goes on. It breeds another form than the form you are making can take."

We might say that, although operating in a different medium, Bacon adhered to the advice given by Leonardo on composition where he urges a process of continual and prolonged 'disruption' and to Leonardo's note on the use of 'spumen and stains' to further invention. Bacon's 'tension', created by marks which breed new forms that can be absorbed into the form being made, is, in a sense, an elided form of both pieces of Leonardo's advice. Padoan states, "for Leonardo the decisive moment in

his endeavours was that of design" (Padoan, 1992, p.100) because it was only in the design process that he could endlessly delay finalization and could practise strategies of 'disruption' and permutation. The precepts of modernism allowed Bacon to practise these strategies directly on the canvas. Once Leonardo committed his composition to paint, the codes and conventions of his time, and not least the demands of his clients, precluded the prolonged developmental processes he seemed so attached to. Perhaps it was because of these inhibiting factors that he experimented unsuccessfully with techniques that would allow him more scope to change his original conception and perhaps this explains why, as Freud states, he became *"impacientissimo al pennello"* (very impatient of painting) (Freud, 1963, p.181).

'Why put something on paper only to reject it ?'

Gombrich, in his seminal work on the psychology of perception, raises a question central to our understanding of Leonardo's systematic permutations, Bacon's 'disruptions, and any designs or compositions which are rejected when he asks "why should an artist put something on paper only to reject it?" (Gombrich, 1982, p.227). An answer is provided by Vasari (1965) who suggests that if anyone wants to invent something, it is a good idea to draw it in many different ways to see how it all fits together. This, as Gombrich states, is the idea of negative feedback, of submitting the inventions of the mind to the critical judgment of the eyes. But it is also a process of combinatorial thinking. Barthes states: "Meaning is born from a combination of non-signifying elements (phonemes,lines); but it does not suffice to combine these elements to a first degree to

exhaust the creation of meaning. What has been combined forms aggregates which can combine again among themselves... this disturbs and disaggregates the unitary development of form... one order collapses into another" (Barthes, 1985, p.141).

Barthes is writing here about the work of the late Renaissance artist Archimboldo, and what he has to say about Achimboldo's composition brings us full circle to the connection that we began with between poetic composition and transitional drawing. Barthes writes that Archimboldo's work "has a linguistic basis, his imagination is, strictly speaking, poetic; it does not create signs, it combines them, permutates them, deflects them, precisely what the practitioner of language does" (ibid, p.131).

In his book on Frank Auerbach, Hughes (1989) writes "...drawing is hospitable to the unformed idea". This is written in relation to the work of an important contemporary artist. The suggestion begins to emerge that it was exactly this 'hospitality to unformed ideas' that made TD into an important, if not central, feature of Renaissance invention and concept which in itself extended far beyond the boundaries of the rhetoric from which it originated and the visual arts which adapted it to their purposes. This is perhaps best illustrated by the fact that the two main modes of drawing, the one disconnected (where what is presenced is changed through a sequence of modifications and combinations), and the other connected, (where the visibility of sequence is suspended by the running together or overdrawing) are two modes which correspond to a differentiation in treatises on rhetoric from the time of Aristotle onward. These treatises:

"...differentiated between a disconnected and connected arrangement of words, between a more austere style in which the individual elements were clearly and distinctly articulated and separated from one another, and one in which connectives created a smooth and flowing transition between parts' and 'Demetrius' treatise on style made a comparison between verbal and visual forms of this distinction" (Potts, 1994, p.100)

'th'interrtraffique of the minde'

The concept of the transmission of TD from art to other domains is part and parcel of what Samuel Daniel (in Hale, 1993, p.284) described as 'th'interrtraffique of the minde'. Art in the Renaissance was "recognised as a fundamental activity of the mind, perhaps as the very prototype of intellectual activity... the general tendency during that period was to identify thought and image" (Klein, 1981, p. 37). In other words, where ideas were discussed, ideas about drawing and drawings themselves would have been discussed. The reason for this was the enhanced prestige of the artist-engineer, the equal footing art had achieved with poetic composition and perhaps most importantly, the incomparable increase in the tasks, forms and functions of drawing. As Westfehling states, drawing was used where:

"...effects had to be tested, details worked out, emphasis and connections worked on. In the free play of creative impulse (freien Spiel der Kreativen Impulse) and in the informal nature of the whole process (ganzen Vorgangs) lay a great flexibility of creative thought, which must have had a very stimulating influence" (Westfehling, 1993, p.78).

Hale, in his chapter on the 'inter-traffic of ideas' describes the 'solidarities' or discussion groups of the universities and he places great emphasis on the large range of occupations and interests, from botanists and mathematicians to artists and architects, who visited the houses of well-known scholars and artists, and the extent to which artists and scientists both travelled and read in order 'to explore other conventions' (Hale, 1993, p. 305). Here it is important to realise that on their travels, artists and scientists would often have shared their ideas by means of their notebooks. For the Renaissance artist with scientific interests, and later for the scientist proper, drawing provided a tool of analysis and comparison; it enabled him to recognise organic connections and derive conclusions from the information collected. In the fields of architecture and engineering, drawing became the main instrument of project development. "Drawing opened for the planner scope for decision- making and alternative possibilities, a process which was unquestionably carried forward by the principle of disegno" (Westfehling, 1993, p.124).

Transmission and proliferation

Hale also confirms that as "the European transmission system speeded up and purses and minds were opened wider, more Europeans looked to what was being made and thought in Italy" (Hale, 1993, p.322). It would seem that Italian conventions certainly played an important pedagogic role in this process with what Hale describes as their 'seemingly inexhaustible self-renewal' of approach. But the new conventions were not confined to Italy. Francis Bacon was to "urge that a deliberate connection be established between the natural philosopher, the

law-seeking scientist, and the artisan" (Hale, 1993, p.561). Drawing had initially been an integral part of the enterprise of early modern science, but while TD was central to the speculative tradition of the artist- engineers, its transmission and survival in the sciences depended upon a number of complex factors. Eisenstein (1993) suggests that the innovation of printing increased 'creative acts' which transformed the exchanges between intellectuals and artisans. Hale supports the view that the major printing establishments provided some of the most important centres for the exchange and transmission of ideas, acting as a temporary home for itinerant intellectuals as well as being a 'book factory'. I shall return to the 'book factory,' as a focal point of transmission and proliferation of TD at a later stage in this cycle.

I have looked at the way the visual arts absorbed devices from classical and Renaissance poetics and rhetoric, drawing out one direction of the traffic in ideas from the humanist scholars to the artist- engineers but, as Galluzzi (1996) states, it did not take the humanists long to realise that the artist-engineers 'offered manifold skills' in deciphering books like 'De Architectura' and texts of classical and medieval optics. Galluzzi reminds us that it was in the service of rendering classical and medieval texts more accessible by means of their graphic skills that men such as Taccola and Francesco di Giorgio moved from 'mute mechanics' to inventors and restorers of ancient knowledge, for whom discovery and rediscovery were the central ingredients of the process of invention. It seems likely that some aspects of this collaboration would have taken the form of a dialogue between the humanist scholar and the artist engineer with a drawing as the focus of their exchange, a drawing which would

have changed as the scholar's translation of the text became more exact or refined. This would give us, outside the precincts of the workshop, drawing activity as the centre of dialogue. The final product of this interaction was a new dimension to the concept of 'text' produced by "the systematic integration of images into discussions of architecture and machinery" (Galluzzi, 1996, p.14).

It is a common perception that with the emergence of the printed book the image took a back seat in relation to the word. In her remarkable book 'The Art of Memory', Yates (1966) shows that memory systems based on visual imagery (an essential part of any scholar's mental equipment in an age when large portions of text had to be committed to memory) declined after the emergence of the printed book. The oblivion into which this memory system sank was even more complete than that to which rhetoric was assigned. This memory system, in use since the time of the ancient Greeks, was based on the view that "the active image impresses itself best on the memory... and that intellectual things are best remembered through sensible things" (Yates, 1966, p.389). Yates shows how Aristotle compares the deliberate selection of the mental image to think with, with the deliberate construction in mnemonics of images through which to remember. The advent of the artist and architect's notebooks, and in particular the style of very rapid drawing often employed in such books, may be related to the general interest in mnemonics in the middle ages and Renaissance. It is, however, difficult to pinpoint when the very rapid sketch came into use as a means of recording, but as Landau and Parshall state, in the Renaissance workshop it was common practice to disseminate workshop drawings and

"the copying of these prototypes was concerned with capturing the lineaments of a style or a figural invention" (Landau and Parshall, 1994, p.48). It was certainly used by Francesco di Giorgio in the margin of a treatise by Taccola and, as we might expect, Leonardo was a master of this process which involved rapidly absorbing and metamorphosing ideas by other people. This practice was not in the least at odds with ideas about creativity or originality and once again was based on the interplay in rhetoric and poetical composition between invention and imitation. While the invention of printing made "it possible to dispense with the use of mental images for mnemonic purposes" (Eisenstein, 1993, p. 36), I believe the pattern of image and word in the notebooks and treatise of the early artist -engineers, the circulation of these books (none have been published according to Galluzzi, 1996) and the interest that would have been taken in them, not only provided a means of transmission of the notebook, and in effect by this means TD, to a wider circle of users, but also became the model for printed books on certain subjects where word and image complemented each other.

It could at this stage be objected that book illustration has nothing to do with TD. In terms of comparative appearance this would be justified. In terms of transmission, however, I shall try to elucidate how the creation of the final printed image could have been connected to the transmission of TD.

With the advent of the printed book, Eisenstein tells us that, contrary to what we might believe, images became more, not less, important and abundant after the establishment of print shops throughout Europe and the opportunities for image makers increased: "before the

outlines of a comprehensive and uniform world picture could emerge incongruous images had to be duplicated in sufficient quantities to be brought into contact, compared, and contrasted" (Eisenstein, 1993, p.20). The origin of these images in the first instance was part of the complex dialogue between the artist and the author in the printer's workshop .

The printer's workshop and transitional drawing

Lowry states (in Eisenstein, 1993, p.25): that the printer's workshop was "an almost incredible mixture of the sweat shop, the boarding house and the research institute", an inter-disciplinary institute where the divisions of intellectual labour dissolved. The need to decipher ancient manuscripts by providing illustrations of the written descriptions brought together humanists and artist-engineers; the printer's workshop "brought together astronomers and engravers, physicians and painters" (Einstein, 1993, p.25). The functions performed by the image increased: fully one third of all books printed before 1500 were illustrated according to Landau and Parshall (1994). The interaction between author and artist would have been similar to that between humanist and artist. Drawing was an effective system for both the author and the artist to work towards a consensus of what was needed in terms of a give-and-take focused upon text and image. We can but imagine the drawing and redrawing that went on before Giorgius Agricola in 1556, after five years work published a book which summarises virtually all of the 16th century practical lore of mining. In the interaction between Agricola and the artist who did his illustrations, the dialogue and the drawing that would have taken place were also a way for him to check the facts of his words, and for the artist

to check the re-presentation of those facts. As Panofsky states (in Eisenstein, 1993, p.139), the new mode of book production produced "groups and friendships conducive to cross-fertilization" and, at the same time, I believe TD became part of the internal evolution of the speculative tradition.

This intensification of collaboration between the draftsman and author only served to reinforce a skill that, to some extent, the author would have already possessed. Just as the ancient art of memory had been a must for the educated person, so drawing took on greater pedagogic importance at this time. Westfehling gives us an indication of the status of drawing by quoting from Castaglione (1914) the Renaissance arbiter of good taste and courtly behaviour, who said "drawing is an indispensable element in human education and cultivated living" (Westfehling, 1993, p.74). There is abundant evidence that both Kepler and Galileo were highly proficient draftsmen (see Kepler's design for the frontispiece of his Tabulae Rudolphine, published in Ulm in 1627 and Galileo's drawings of the phases of the moon, in Kemp, 1990). If the author of a Renaissance treatise was a draftsman in his own right, this would have intensified the element of graphic exchange in 'sorting out' the images congruent with the text. The author would have drawn something to make something clear, both to himself and to the draftsman. TD was, and remains, a soliloquy often before it becomes communication. Answers are arrived at and facts checked by drawing and while drawing.

Transmission and Leonardo da Vinci

In this brief historical reflection, I have suggested that the presence of Michelangelo and, more importantly, Leonardo da Vinci at a determining epoch in the history of drawing is important, if not decisive. Both of them preserved and explored the features of the drawing conventions practised in the Renaissance workshop with such scrupulous intensity that the characteristics of these conventions mutate into hybrid forms in which Leonardo, in particular, paraded the game of his own creative thinking. But, in all this, one has to proceed with caution by not portraying either Leonardo or Michelangelo as lone wolves and not over-rating the extent to which Leonardo's notebooks and drawings were in circulation during his lifetime and after his death. Pacey states that:

"Leonardo da Vinci was not typical of his contemporaries, and he probably had little influence on engineering practice, his notes and sketches were not available to many people in the 16th century, and almost nobody learnt anything from them... if Leonardo had not existed the history of European technology would have been the same" (Pacey, 1974, p.101).

To what extent is Pacey's view of Leonardo a viable one? Leonardo's single largest topic of observation and investigation was the movement of water. This can be explained in the context of the importance of water power and lends weight, along with the Madrid notebooks discovered in 1966, to the argument of Galluzzi that Leonardo's "main source of livelihood came from his work as an engineer in the service of various patrons" (Galluzzi, 1996, p.46). Galluzzi goes on to state that, in the area of engineering Leonardo's work was

"consistently characterized by an empirical approach similar in style and method to that of engineers of his time" (ibid). That Leonardo greatly enlarged upon the drawing devices of the artist-engineers is beyond doubt; whether he was the first in the field is impossible to say for, as Cianchi states, there were certainly more drawings and notebooks "available in Leonardo's lifetime than we know today" (Cianchi, 1988, p.12).

Thus I agree with Pacey that had Leonardo not existed, the history of European technology would have been the same in as far as he was part of a tradition, a fact that many studies of Leonardo have succeeded in obscuring. That this way of presenting Leonardo is still prevalent was evident at a recent exhibition of facsimiles of Leonardo's drawings in the Schottenstift in Vienna, where no mention of Leonardo's place in the tradition of artist-engineers was made and no recognition that many 'inventions' attributed to him were borrowed and adapted from other sources, a practice which was part of the workshop tradition.

Pacey's point that Leonardo's notes and sketches were not available to many people in the 16th century and almost nobody learnt anything from them is a more serious objection to the process of transmission. In approaching this objection, we must ask ourselves who would have seen Leonardo's notebooks and drawings and who would have wanted to learn something from them. The unavailability of his notes and drawings to many people is, in terms of Renaissance society, irrelevant in the sense that they needed only to be available to a very small section of society to have an impact. In other words, not how many people but who these people were, would have been decisive.

Leonardo da Vinci, like other artist-engineers of the Renaissance "was a socially prominent and respected figure, commissioned by powerful and wealthy patrons, well paid, and often regarded as one of the brightest ornaments in sovereign courts" (Galluzzi, 1996, p.11). I have already mentioned the collaboration between the humanist scholars and the artist-engineers which further enhanced their status. But who would Leonardo have come into contact with in the service of a powerful patron? Padoan provides us with evidence of the intellectual contacts Leonardo made in his short stay in Venice. It includes: "...publishers, (nearly one seventh of the entire European output of printed books was published in Venice at that time, with scientific books in the lead) physicians, naturalists, mathematicians, philosophers, men of letters and artists" (Padoan, 1992, p.107). Roberts tells us that:

"During his life time, Leonardo's talent was so highly esteemed that any product of his extraordinary intellect and powers of invention... was already treasured by artists, scientists and collectors alike" (Roberts, 1992, p.155).

She goes on to say that his drawings were copied and disseminated widely, even before the turn of the 15th and 16th centuries. After his death, the story of the dispersal of his drawings and notebooks into the collections of various European courts and private collections is a long and involved one, and it is true that this process meant that many of his notes and drawings were not available until the 19th century and about one third of the papers, bequeathed to Melzi after Leonardo's death, are still to be recovered. It is important to realise that of all his notes Melzi only managed to collate and publish Leonardo's 'Treatise on Painting' in

which the decisive note on compositional drawing appears. However, as Usher states, "Leonardo did not cease to exert a direct influence upon science and technology even after his death, for the notebooks, though in manuscript, enjoyed a restricted but notable circulation" (Usher, 1988, p.221).

This much seems clear. Leonardo, as Kemp states, worked for "a number of the major players on the European stage" (Kemp, 1992, p. 53). His drawings for them and the accompanying circle of intellectuals, artisans, and artists would have represented projects and topics of discussion in courts with a keen interest not only in art, but also in scientific and mechanical matters. This pattern of patronage was repeated all over Europe where the role and status of the artist was similar to that of Leonardo. Kaufman presents us with a man close to our conception of Leonardo, in the figure of Paulus Fabritius at the court of Rudolf II. Fabritius collaborated on complex triumphal arches with astronomers, mathematicians, artists and mechanical engineers: men such asTycho Brahe, Kepler and Archimboldo. Art, science, technology and humanism were interrelated in the kind of courtly settings in which Leonardo spent most of his life. The work done in these courts attracted a great deal of attention and emulation and everything Leonardo produced in this milieu was eagerly copied and collected. His activity had as its main ingredient an interdisciplinary cross pollination in which 'disegno' and 'invention' would have been paramount and where the status of the artist would have been equal to that of the mathematician, the astronomer, the scholar and the poet .

The Flying Steamroller

Both Panofsky (1991) and Kemp claim that perspective underwent processes of absorption into other disciplines. My thesis is that the same applies to TD which, from its beginnings in the artist-engineer's workshop, developed and proliferated as a method of generating an idea and thinking it through in various combinations and permutations. In an exhibition of the work of Chris Burden (Noever, 1996) one of the exhibits was a 12-ton steamroller which was attached to an arm and was rotated until, by means of a transfer of weight at the end of the arm, it became airborne, driver and all, and rotated around the room for about 15 minutes. The question of the value of this as an art work is of no interest to my discussion; what is of interest, however, is that the TDs Burden produces in the generation of his ideas represent a pattern of idea exploration which has many essential features in common with the pattern of exploration and modification developed in the Renaissance workshop. Nevetheless the separation of the activity of the engineer from that of the artist which has taken place over the intervening centuries certainly contributed to the trepidation I felt as the steamroller whirled above my head .

As Eisenstein states, one of the most difficult tasks is to describe changes in mental habits:

"...or even determine exactly what they are...(as) theories about unevenly phased changes affecting learning processes, attitudes and expectations do not lend themselves in any event, to simple clear-cut formulations that can be easily tested or integrated into conventional historical narratives... A large margin of uncertainty must be left when dealing with such changes" (Eisenstein, 1993, p. 5).

Conclusion

It appears that rhetoric, poetic composition and drawing were all central in "the total spectrum of intellectual devices needed to bring the idea into effect" (Kemp, 1990, p. 93). One of the central concerns of the previous century was to explore the distinctness and difference of the word and the image. This reflection points to a strong connection of word and image, with the suggestion that in creative thinking that employs drawing, a connection to the tropes of rhetoric is prevalent. Any view which suggests there is no connection at all between what the mind is doing on one level and the mind is doing on another level "would lead us to assume that the mind is a kind of jumble" (Levi Strauss, 1977, p.78). This does not, however, suggest that the correlation is seamless. The rhetorical devices operating in TD could also be connected to its use in the collaborative social context of the workshop. To what extent is drawing still used in tandem with argumentation and persuasion? To investigate this link I am faced with the task of retrieving and trying to understand a rhetoric which has been discarded and forgotten for more than two hundred years. Beneath the surface of all these orientations is the highly complex nature of the object of the TD, the surface upon which it is made and its cultural significance. As the 17th century writer Northgate states (in Brown, 1991, p.34) of the compositional sketches of Van Dyke, "when all is done, it is but a drawing, which conduces to make profitable things, but is none itself ". Perhaps some of the most interesting examples of this are among the Italian drawings in the Albertina collection of graphic art in Vienna which are described as 'Klebekorrekturen' (See Fig. 6) by the 16th century artist Volterrano. These are drawings upon which corrections

have been made on scraps of paper glued over the areas to be corrected. They would have been discarded after use. The fact of their survival has given them a cultural value they would not have otherwise had at the time they were produced. Why are TD very often done on scraps of paper or the backs of envelopes and why are they discarded? What is their value to the artist or designer who keeps them?

Such questions produce a realisation that a mere descriptive catalogue of forms of TD will not serve my purpose as I would simply be analyzing so many type processes of which there is sufficient number in the instruction books of architectural drawing, technology and art and design. If this research is to be of any use to education, it must go beyond these commonplace rules of thumb and trace a genealogy of idea generation and the passage of states which I describe as transitional. An examination of TD must uncover its movement and the complex and entangled skein of strands that are absorbed into this movement: the psychological, the physiological, the cognitive, the material and the social. Investigating TD as habitus, and trying to reconstruct it as such, will involve an exploration of the deeper relationships between drawing and language, both written and spoken, the iconic and the linguistic sign; graphic conventions and innovation; drawing in the social and the autonomous context; perception, memory, introspection and experience; the inner activity of the mind and the external activity of drawing; and the relationship of TD to the environments in which the drawing is done and their relationship to the social space of the field.

Second Cycle of Emergent disclosure

AN APPROACH TO THE DEFINITION OF TRANSITIONAL DRAWING.

Introduction

Before beginning to approach a definition of TD, we must ask ourselves if there is anything to define, if the form of drawing I have designated as transitional has characteristics and functions which are significantly different from the general corpus of drawing practices.

An important contribution to my belief that this form of drawing is essentially different from other forms is the material presented in the historical reflection; that two forms of drawing were developed for 'Projektentwicklung', project development, namely the sequence of separate representations on the same piece of paper and the overdrawing approach as introduced by Leonardo da Vinci. The 'macchia', the rapid drawing which has all the hallmarks of spontaneity, and the grotesque 'as a way of creative release and as a means of formal experiment' (Wilton-Ely, 1993, p.4) are also closely related to these two forms. In the Renaissance, these forms of drawing were the essential tools of 'disegno' which, as I have suggested, was closely related to our present day concept of creativity.

A good place to start uncovering a definition of the present day forms of TD is to clarify that for many groups who use this drawing, it is an instrument employed in the service of creating an end product and as such is not the product itself. Implicit in my approach to a definition of TD is its instrumental character. TD is used by practitioners in different groups as an instrument. The notion of instrument needs further explication. Instruments are used by humans to fulfil their intentions and to reach their

goals. The TD is used as an instrument to inaugurate or 'presence' an idea as an object, a drawing accompanied by one or more signifying systems which allow for "tolerances and indeterminancies that amplify the ability to perceive or imagine many options" (Fish and Scrivener, 1990. p.117). As an instrument, the TD works as an aid, not only to perception and imagination but as an aid to action, the action of drawing, often in combination with other modes of signification. Underlying the notion of action is the notion of 'change' of the transition from one state to another. Drawing changes what is available for perception. In terms of drawing, this is an important distinction and it explains in part why such drawings are often discarded after use or, if retained, are not exhibited as final products but rather as examples of idea formation with an ambiguous value as cultural artefacts. Giacometti once referred to an entry in his notebook as 'objet des mal dessins' (object badly drawn) (Fig. 7). This drawing represented in essence the finished sculpture. The TD is insignificant as an object of aesthetic and even artistic value. Its designation by the drawer as an instrument allows the drawer to retain or discard, to enter and retire from the field of the TD with ubiquity. This *droit de sortie* is possible because the agent would not seem to see this form of drawing as an end product but as a means to producing an end product.

There is an implication that this drawing is an aid to thinking, an instrument to think with, as the title of our first cycle suggests. In recent times, in the field of architecture and design, a variety of designations have been given to the form of drawing which I term 'transitional':

- Conceptual drawing (Robbins, 1994)

- Study drawings (Herbert, 1988)
- Study sketches (Goldschmidt, 1991)
- Spontaneous drawing (Thistlewood, 1990)
- Idea sketching (McKim, 1980)
- Design drawings (Fraser and Henmi, 1994)

Fraser and Henmi (1994) also identify a form of drawing which they describe as referential drawing, which the architect uses to record and absorb ideas for use in the design drawing process and which form "...part of the infrastructure of knowledge which every designer must have" (Lawson, 1997, p.246). Henry Moore (in Fuller, 1993) identified a form of drawing that he described as 'transformational drawing' which would seem to have something in common with the 'doodle'. Later in this thesis I shall relate both of these forms to the transitional drawing. (see also Neumann, 1985).

All of these terms could be applied to a very wide field of initial creative activity. The painter, as well as the sculptor and the architect, would recognise most of these terms as providing a more or less apt description of initial thinking about a goal in terms of drawing... " a kind of drawing that is immediately responsive to the promptings of the imagination, and that apprehends and clarifies ideas in process of refinement" (Thistlewood, 1990, p.17). Why go further when we have a range of terms to choose from which describe the generation and development of ideas in drawing. All of these designations suggest a certain stable semantic diversity within which there occur rearrangements of accents upon the two main forms which originated in the Renaissance. This is not the place to substantiate all of the historical assumptions I have

made. Let them remain assumptions. But one point is of decisive importance. In drawing, we can distinguish between a sequence of separate drawings presenting alternative views and modifications and drawing where changes are made by drawing over what has already been drawn, without excluding the possibility that both forms of representing modifications may appear within or upon the same support. The architect uses overdrawing and separate alternatives, with the difference that his overdrawing is sometimes done on transparent paper placed on top of an initial or previous drawing, a phenomenon which, while retaining all the spontaneity of Leonardo da Vinci's original concept, provides at the same time a clear overview of each consecutive stage or state. The sculptor and the artist may employ either form but, as in the case of Giaccometti, often place great store in the 'spontaneous', macchia type of drawing which is then explored by transitional drawing or leads directly into the work process or the slow unwinding in a state of suspended intention which has affinities in the present day with what Angelil and Klingmann (1999, p.78), writing about the drawing process of the architect Gehry, describe as parallel to automatic writing in which 'the hand is trusted with the task' while conscious attention is suspended. This has a link to the doodle and in the past with the grotesque. However, architectectural drawings by Prix and Swiczinsky (1990) and Johannes Spalt suggest a comparable use of the spontaneous rapid sketch (see Fig. 8 and Fig. 9). Uhl (1998) has published a handbook for 'architects and others' which fundamentally consists of an approach to the generation and modification of ideas based on the 'overdrawing' approach and is an excellent illustration of what Carraveta means when he states:

'The semiotic universe is ultimately a continuum of transformations wherein inventions are simply another (often exalted way) of changing something around' (Caravetta, 1998, p.38).

It is my view that people from a wide variety of domains, when they use drawing to generate solutions to ill-defined problems, employ different process types of drawing in ways which have, what Wittgenstein would call, a 'family resemblance' (Wittgenstein,1953). The family resemblance of transitionality allows us to bring to light the diversity within the drawing dispositions of agents within the same field and the very real similarities across fields. The concept of transitionality creates a broader range of theoretical entrances and pathways with which to investigate the role of drawing in creative thinking. One objective of this research is to provide and justify reasons for adopting one term which would link this activity conceptually across a number of domains, and be of use in constructing a programme for secondary education. A term which could replace the terms hitherto used because it could be linked conceptually to the materiality of the support, the object relations which this implies, the strategies and modes it uses and the purposes it is put to: a term which would suggest the oscillation between thought and drawing, between the inner reality and the outer reality, between sign system, cognition and thinking creatively, and between the elements of speech and writing (as primary elements of consciousness) and the elements of drawing.

Why 'transitional' drawing?

I have been at pains all along to find a term that will describe the essential movements and functions of a kind of drawing which often ends

up in the waste paper basket once a clear concept or plan has been formed by the agent; a drawing which is not product, but a means of directing, modifying, clarifying, changing and developing ideas; which documents the process of elaboration; poses and examines questions through a process of repetition with modifications; includes other signification systems side by side with the graphic signification system; and whose speculative, tentative and sometimes fragmentary and spontaneous nature reflects an intrinsic reciprocity between mind and act. I initially used the term 'Schematic Drawing' (Pigrum, 1996) based on Kant's idea of schemata as a procedure of imagination which bridges the gap between concepts and images and engages us in the act of reflecting on representations in novel ways which in turn generate new meaning. With the 'schema', Kant 'is struggling to express a deep insight ...that there is a form of rationality without rules, that is subject to criticism, and so is not arbitrary' (Johnson, 1987, p.161).

Johnson (1987) and Weisberg (1993) both see this creative process as resting upon schematic structures and metaphoric patterns by which schemata are extended and elaborated. This depends on the transfer of knowledge based on near analogies of previous experience, akin to what Merleau Ponty described as 'sedimented structures' (Mallin, 1980). Two features of schemata are of great interest: first the involvement of metaphor and analogy, that points back again to the link with the tropes of rhetoric in the production of images (and also to the link with the concept of transfer) and transformation. However, I continued to search for a concept which better suggested the movement inherent in TD.

Winnicott (in Schwarz, 1993, p. 59) described an area in which we engage in an interplay between the self and the objective world of other people and objects as 'potential space'. This potential space is a transitional area, "where the individual engages in the perpetual task of keeping inner and outer reality separate yet interrelated". In this transitional area we use symbols, transitional phenomena, as a means of relating. Winnicott traces this activity back to the infant and its maternal relations and to the first expressions of play activity. Winnicott's main point, I believe, concerns the role of transitional phenomena as interaction between what is given and what is created and their recombination into new configurations. It will be seen that this has the same functional sense as Kant's schemata. But Winnicott's concept of transitionality gives us a better purchase on the concept of TD for a number of reasons: firstly this concept of the transitional object has begun to establish itself as a way of understanding other creative processes linked to TD, for example the relation between image and word. Fuller (1993), in his book on Henry Moore, was one of the first to realise the importance of Winnicott for the description of the foundations of subjective and trans-subjective creative processes.

The concept of 'transitional' also lends itself to an understanding of the mobility inherent in this form of drawing. This mobility has relevance not only to the constitution of the drawings, and passage between one state of the drawing and the next, but also suggests the transition from one semiotic system to another that is characteristic of the hybrid or 'multi-mode' nature of the TD. This is one of its Janus faces.

Mobility in TD, seen as the product of deliberation, understanding and intent, is in contradiction to a kind of TD that Henry Moore described as his 'transformational drawings' (Fuller, 1993, p. 97). Moore seems to have chosen this appellation to describe drawings which began in a state of suspended intention and then developed in a kind of reverie towards completion (see Fig.10). He uses the term 'transformational' to suggest permutational changes which take place from the point of an initial mark. Figure.11 is an example of a similar process by Jackson Pollack during the period he was undergoing psychoanalytic treatment. These drawings are described by Cernuschi (1992) as 'psychoanalytic drawings'. These apparently unintentional drawings, slowly grow by accretions in a state of reverie, in sharp contrast to what Westfehling (1993) describes as the 'macchia', the drawing made very rapidly with the utmost economy and devoid of all extraneous detail.

When considering these extremes, it must be remembered that whatever is presented to perception and cognition is interpreted, even if the demand for interpretation is felt by the agent at different levels of urgency. Both Hölzel and Fiedler (in Prinzhorn, 1972, p.19) suggest that lines and forms have 'a power of their own'; that as soon as they exist in any combination they have 'a potential energy' and are 'viewed interpretatively with an eye to pictorial cohesion'. Fiedler goes as far as to say that, in any collection of sense impressions there is already an element of form, but that this process of form finding is inhibited by compulsions or factors running counter to the form finding impetus. TD as defined here, is a 'free zone' created by the nature of the support and the disposition of the activity of TD to supplement drawing conventions with

other sign systems such as writing, figures etc. TD is a drawing process which is characterised by mobility and its openness to a multiplicity of sign production.This is not to abandon a concept of innovative drawing procedures as being at the centre of this activity, but to posit choices of sign options and actions that provide alternative, effective ways 'of shaping and structuring the work' .

Before I go any further, it is important to locate where the TD enters the creative process. The TD is not the origin of a problem. Origins are located before beginnings. The problem is a beginning, and "a beginning provides an inaugural direction, a provisional orientation in method and intention" (Said, 1985, p.316). Problems are connected to various ideas about what form the solution could take. This produces, as Sudrow states, a:

"...creative vacuum on the one hand and creative pressure on the other and these two in conjunction produce the right conditions for the invention of a form" (Sudrow, 1994, p. 255).

Whether the idea has primacy over the drawing or whether the drawing is merely a representation of an idea completed in the mind, is a very difficult and complex question, and I shall have recourse to return to it many times in this research. For the moment, however, let us consider that, as Fiedler (in Barasch, 1998, p.123) states, if we "...cast a glance into the inner workshop of the mind" we will "find that it is not filled with the 'solid properties of completed figures' with ready made formulae; rather, it is a process of infinite change and constant transformation". As Sudrow states:

"The idea of the form, invention and form finding (Formvorstellung, Formerfindung oder Formfindung) has to be represented (dargestellt) in order to be discussed... Creativity and the ability to represent are the central qualifications of the designer... the creative problem for the designer is how to regenerate his visual repertoire and to expand his creative substance' and 'invention (Formerfindung) is usually achieved through drawing" (Sudrow, 1994, p.255)

Transitional drawing helps us to give form to ideas but also to both invent and find new ideas, in the case of the former, it operates as the 'inventio' I have already mentioned in my historical reflection. Thus TD is first and foremost an act of invention, of getting an idea. It is an instrument which succeeds, 'das Gerät, das gelingt' (the instrument that succeeds), to slightly change a line from one of Rilke's poems (... als das Gerät das gelang). Alvaro Aalto, the archictect, states (in Wilson, 1992, p.34) that in order to solve the complex maze of conflicting aims and agencies which constitute a new problem:

"I draw ... and eventually arrive at an abstract basis to the main concept, a kind of universal substance with whose help the numerous quarreling sub problems can be brought into harmony."

Tinguely, the maker of mechanised sculptures, states (in Hulten, 1987, p.374) that he drew when he could not find the way between what he was looking for and what he was dreaming of:

"... so then I have a problem, a conflict, and in that case I draw: to find a link between the form, its appearance and the movements it must make... by provisionally materializing it on paper I reach the point where I

can go on with the work... *only by drawing could I finally see clearly what needed to be done*, although I already had visions" (italics are mine).

Transitional drawing as 'bricolage'

Lawson, one of the foremost writers on design processes, cites the inventor Rowland Emett as having stated, "that although inventors are supposed to sketch their ideas on the back of an envelope, he prefers to use the front so he can include the stamp..." (Lawson, 1997, p.130). This is by no means as trivial as it may sound. There exists abundant evidence of the use by practitioners of what we could be described as 'used' or 'random' surfaces. It is important to pin-point the use in this form of drawing of whatever support or surface is 'to hand'. This has far more importance than I initially conceived. First of all, certain existing, accidental or fortuitous elements within the 'scrap' of paper contribute in some way to the 'throwaway' nature of the drawing. It is not unusual for agents to write a telephone number or other items somewhere on the drawing; see the example from the Austrian sculptor, Oswald Stimm, who drew and wrote on a cardboard envelope and then put material in it which he gave me to photocopy (Fig.12). This is further evidence of the expendability of both the support and the drawing. The fact that the surface chosen to draw upon is often random is related, I believe, to the activity of this form of drawing as taking place in a 'value-free zone'; the values from which the activity is free are those attached to cultural artefacts. The value-free zone which the TD represents is largely derived from its 'bricolage' nature.

The concept of *bricolage* will form the first of a number of main axes around which I shall attempt to develop an initial definition of transitional drawing. The concept of the 'bricoleur' was formulated by Lévi Strauss (1977) and describes the bricoleur as adept at making do with whatever is at hand: 'with a set of tools and materials which is always finite and is also heterogeneous, bricolage is the contingent result of all the occasions there have been to renew or enrich the stock' (Lévi Strauss, 1977, Vol 1, p.16). The concept of bricolage relates to TD in two important ways.

TD might be seen as based on what Merleau Ponty (in Mallin, 1980) describes as sedimented structure: for that is to say structures of knowledge, experience and skill which are inseparable and are made up of modifications, outgrowths and revisions of those structures that preceded them. This is Lévi Strauss' 'stock'. This produces an approach to a problem which, because it has been successful in the past is used in the present. Ponty would say we already see lines of force, meanings and patterns in the problem which are correlated to a subsequent means of solving it. The employment of the means, in this case the TD, produces an occasion to renew and enrich its use. The agent sediments these situations, or the results of these situations, and learns how to single out the effects of the various possible actions but, on reapplying the TD, will modify or recombine successful strategies. Thus TD can be seen as a structure of sedimented structures which provides a way into a problem.

The other aspect of bricolage, connected to or reflected in TD, is that for the bricoleur, the interpretation of the immediate situation necessitates the use of whatever oddments he has at hand. Steiner, in his

book on the philosopher Heidegger, emphasizes Heidegger's insatiable interest in the paradox ".. *that the highest densities of meaning lie in the immediate, in the most obviously to hand* " (Italics are mine) (Steiner, 1992, p.90). I believe that Heidegger's view of TD would be that it has its own kind of sight which guides its manipulation and from which it gains its 'thingly' character and which, when linked to subjectivity, is of fundamental importance for our understanding of the nature and efficacy of this instrument. The architect MacCormac states (in Lawson, 1994, p.244) that:

"...different frames of mind involve different instruments for producing and representing what you are doing...whenever we have a design session or crit review in the office I cannot say anything until I've got a pencil in my hand."

The bricolage nature of the TD has consequences for its role as cultural artefact, for the ways in which the TD is preserved, collected and stored and thus made accessible to retrieval, use or re-use. Whether they are discarded, which is sometimes the case, and which groups discard them, whether they are kept in notebooks or sketchbooks or on separate sheets, whether they are exhibited alongside finished products or in their own right, whether they find their way into collections, museums and publications - these are all questions of how TDs function in the agent's and society's system of cultural objects.

The TD has a very unusual place in the proliferation, circulation and deployment of artefacts. It would seem to be subject to discriminations made by individual practitioners at particular moments and in response to particular circumstances. Far reaching questions are

thereby raised as to the criteria which validate the TD as a cultural product. Does the fact that the TD is sometimes deliberately discarded, or that it is seen as unfit for public exhibition, mean that it has a different status or no status in comparison to other cultural artefacts? For many groups, particularly architects and graphic designers, the collaborative conditions under which TDs emerge place them in an ambivalent position *vis-a- vis* the cultural emphasis on the individual's singular and 'original' creative productions. Another reason for the cultural ambiguity of TDs is that they are often seen by both practitioners and society as a means, an instrument employed to achieve more substantial goals.

This instrumental or 'thingly' character is created by the almost seamless interaction between the subjectivity of the person drawing, the act of drawing and the manifestations of this act upon the support or surface, the paper. To describe the integrated nature of this relationship I have borrowed the term *'subjectile'* used by Derrida in his essay on Artaud's drawings (Thevenin and Derrida, 1986) to describe TD as both subjective process and object.

The *subjectile*

Derrida employs this unusual term (which is also used by Artaud) to emphasize that the inner workings of the subject and the manifestations on the drawing surface are not two separate entities. Rather, as Derrida notes, the subjectile is that which lies "between the surfaces of the subject and the object" (ibid, p.79) as the place where "the trajectories of the objective (and) the subjective..." (ibid, p.63) may be traced. Derrida describes a drawing such as that in Fig.13 as "...a work in which it is

impossible to distinguish...between the subject and its outside, the representation and its other" (ibid, p.70). I shall use the concept of subjectile to suggest the relationship between the subjective agent and the support or surface upon which he or she draws.

The subjectile reflects the interminable permutations of figures. Artaud uses 'figures' here in the sense of tropes, of innovative representations (Thevenin and Derrida, 1986, p.101). The action of drawing on the subjectile is the action of 'sounding depths'. Artaud uses words like 'cut', 'hack' and 'incise' to describe the activity of 'sounding', of projecting onto and into the surface of the subjectile (see Fig. 13 and Fig. 14). The TD can be seen as a mere by-product, the 'Entwurf' as 'Auswerf'. These German words both have a connotation of something thrown, in the first case something thrown down on paper, an idea, a project; the second has the connotation of something thrown out or expelled. Artaud's drawings are of interest here because of their 'Auswerf' or dispensable quality and for their use of multi-modes. For some practitioners the TD is discarded as a waste product; it ends in the waste paper basket once it has served its purpose. Crane states:

"Perhaps the causal basis of representation is not to be found simply among the causes of mental states, but among their effects. *The reduction of representation should look not just at inputs to mental states but at their outputs'* "(italics are mine) (Crane, 1995, p.181).

As Brown, describing the drawings of Venturi (in Lawson, 1997, p.243) states, "sometimes the hand does something that the eye reinterprets and you get an idea from it". The relationship inherent in the subjectile is a two-way process of input and its effect on output and *vice*

versa, of outputs on inputs. This is a key concept in my understanding of the problem summarised by the architect Herzberger (in Lawson, 1997, p.245) when he states:

"A very crucial question is whether the pencil works after the brain or before. In fact what should be is that you have an idea, you think then you score by means of words or drawing what you think. But it could also be the other way round that while drawing, your pencil, your hand is finding something..."

Herzberger goes on to doubt the validity of the hand 'finding something' for the architect while recognising that it may be valid for the artist . However, the architect Gehry (in Angelil and Klingmann, 1999, p.78) likens his drawing process "to skating on paper...I think about what I am doing but I do not actually think about what my hand is doing". These examples highlight the conceptual problem of the relationship between the drawing subject and the object drawn. It is my view that TD is not merely a transposition or 'throwing forward' of ideas into drawing, but is the product of the signifying practices whose source and referent is drawing itself as an interlocking and fusion of the subject and the object which produces the subjectile. Thus the concept of the TD subjectile represents the mind in its double aspect of both acting and simultaneously interpreting and evaluating the manifestations produced by action.

The concept of the subjectile, as we have adapted it from Artaud, has a strong link to Heidegger's (1991) thoughts about the relationship between the subject and object. The word object derives from the Latin word *objectum* and Lessing, according to Heidegger, "translated *objectum* with Gegenwurf (counter throw). This translation... speaks of

the fact that something has been thrown over against the cognizing subject by this subject itself" (Heidegger, 1991, p.81). The subjectile of the TD is not, in Heideggerian terms, an object thrown forward by a subject, which is the modern use of object and the conventional way we think of a drawing, but rather what "accrues to perceiving and what human viewing...holds up and portrays as what has come over it" (ibid). Thus the subjectile is the mediator of both subject and object. The subjectile involves something like taking into view what is present as coming to presence and at the same time thereby takes into view that which is "at the disposal of *presencing*, tendering itself from out of itself " (italics are mine)(ibid, p.79).

In classical rhetoric 'invention' means getting the idea; in the case of TD this involves 'presencing' the idea in the form of a drawing. Once this has been done then something is cognizable and the form finding can begin to operate on what is 'tendered' out of the form itself.

The tense of the 'perpetually uncertain'.

Giacometti's description of a drawing which was the basis of one of his most well-known sculptures as 'an object badly drawn' has been mentioned (see Fig.7) and Artaud in his writings about drawing (Thevenin and Derrida, 1986) insists that the subject must go about the drawing in the wrong way, deliberately drawing badly in order to disrupt, penetrate and provoke the subjectile. Uhl states that such drawing: "...promotes creative seeing and step-by-step progress when, among unsightly, hesitant marks produced by diffuse thoughts, progressively more precise clarification is produced. Or better: when the imaginative gaze reads the

marks and in this gets on the track of a solution. The insecure beginnings of the sketch-like produces movement, it produces organizational structures which interweave and hold together all decisions.The unsightly marks (Die häslichen Striche) produce pressure because they show where unsolved problems are" (Uhl, 1998, p.10).

Such drawing is thrown onto the page in a contempt for form and is employed to bring first ideas to nought, to so disrupt the subjectile as to produce the unexpected. Disruptive or displacement practices produce a provocation which causes radical changes which involve an opening up and an intensification of receptivity. Such practices are often characterised by furious scribbling and heavy overdrawing. Figure. 15 is an example of this by Tinguely. One aspect of this disruptive approach to drawing is formulated by Lucien Freud when he states, "you long to do something that doesn't look like your own work - something that frees you from your own nature" (Lucien Freud, 1989, p.16). But Barthes, writing about the works of Cy Twombly, also points to what I begin to see as a characteristic of TD when he says of Twombly's work that 'its tense is perpetually uncertain' (Barthes, 1991, p.169).

TD allows the practitioner to situate or concretize an idea without having to take responsibility for its failure. It is a form whose space or place is exempt from reversal, enabling the drafter to avoid responsibility without abandoning action. It is perhaps the art of positive failure, mobilizing contradictions, producing mediations yet keeping conflict open. The practitioner lives in the world of signs but these signs are in the tense of the uncertain, the tentative and undecided. They are not confirmed as solutions but only as alternatives.

The drawing exists outside us, external to our body, but the changes which it undergoes are produced by our body and mind working in concert. We most often think of cognition as implying a distinction between the perceiver and the object; any convergence can only be partial and short lived. The French philosopher Bergson had some interesting things to say in this direction. Bergson wrote that: "Perception...measures our possible action upon things, and thereby, inversely, the possible action of things upon us...our perception of an object distinct from our body, separated from our body by an interval, never expresses anything but a virtual action...Suppose the distance is reduced to zero, that is to say that the object to be perceived coincides with our body then it is no longer virtual action, but real action" (Bergson, 1988, p.57-58).

The act of disruptive drawing is an attempt to reduce the distance between perception and the object, between the subject and the subjectile, to zero. The utilization of such disruptive strategies is another reason why the TD is of ambivalent value in the world of cultural artefacts; it is often too messy to be assigned conventional cultural value. The paper that constitutes the subjectile of the TD is often already dirty before the drawing begins or has material extraneous to the drawing on it: print, for example. Further to this, the life of a TD within a working process is governed in part by a 'towardness' or a 'forth- coming' (Bourdieu, 2000), the 'what if' of the 'tense of uncertainty'. Sylvester, in an article on Cezanne (1996), mentions the rhetorical device of *Nonfinito*, which, while holding definition in reserve, allows for continuous revision of intention which is exactly the characteristic which Leonardo da Vinci attributed to

poetic compositon and which he advised the artist to carry over into compositional drawing.

Transitional drawings get dirty

TD is not always done prior to and detached from the actual work or making process. In this way, TDs get dirty. Tinguely (in Hulten, 1987, p.347-348) states: "In the case of 'Eureka', my drawings were always pinned up in the hut on the work site" and later:

"I used to draw a lot on table cloths. Yes, table cloths and I have no idea whether a certain public considers me a good or a bad draftsman. I simply know that my drawings have a right to exist in relation to the machines. I remember someone in Basel once saying that my drawings were always dirty.That's why he didn't want them to be bought... I looked at them - in fact they were dirty, because I had used them a lot in my work."

There are a number of things in this quotation which are revealing about TDs as cultural artefacts. One is Tinguely's difficulty in placing them once they had been separated from the work process, once they had been taken down from the wall of the hut. Secondly, Tinguely is evidently prepared to sell them if he can but at the same time has not considered the fact that they might not be saleable because they are dirty. By placing the drawings in the arena of cultural objects for sale, Tinguely had overlooked the nature of the TD subjectile and its 'Unvollkommenheit' (imperfection). Given the cultural values of our society a drawing, if it were old enough, could be torn, stained and even fragmented and still be saleable. (Marcel Duchamp, in his facsimile notes for the 'Great Glass',

deliberately preserved all these features of the original notes and drawings - see Sanouillet and Peterson,1973; its problem in Tinguely's case was that he was offering a recent drawing for sale and it was dirty, an imperfection which does not conform to the value we place on recently produced things of cultural value. Wittgenstein writes:

"You need to think of the role which pictures such as paintings (as opposed to working drawings) have in our lives. This role is by no

means a uniform one. A comparison: texts are sometimes hung on the wall. But not theorems of mechanics" (Wittgenstein, 1953, p.205e).

While the TD often represents a process of search and intelligibility for the practitioner, considerations of performance, preservation or potential commercial value are often of no or only secondary importance. I have said that some of the reasons for the ambivalent role of the TD as cultural artefact are due to the diverse and often random nature of the subjectile, the things which happen to the subjectile in the process of its use and existence in the work place and in the nature of some of the drawing procedures used to further the ultimate goal of the TD. The TD subjectile is produced by agents moving and breathing within a particular work environment and in a particular community of practice. It is positioned between people organized in some way. The variety of ways it is used depends upon the principles of selection operating within the group, which in turn depend on the forms available for conceptualizing and visualizing and on a definite scope and depth of activity. The different uses to which TD are put are inseparable from its primary orientation in its environment, inseparable, that is to say, from the circumstances of time, place and practice.

Field and Habitus and the 'spectrum of ways of representation'

Bourdieu employs two basic terms when describing the way people are placed in time and site locations, *field* and *habitus.* The field is the objective network of relations existing within the site location of a group and the structuring of the relationships within the group.The habitus is the mediation between the objective structures of the field and the practices within the field. Thus it is the social reality of the group within the mind of the individual member of the group. Grenfell for example, states that habitus 'pertains to schemes of thoughts, dispositions to act (the intra-psychological), developed in socio-cognitive relationships with past social structures. Such structures are concrete and individual, both in terms of organisation and theories, ideas, etc., (the inter-psychological)" (Grenfell, 1996, p.291).

The relationship between field and habitus is interwoven. It is also one of conditioning; the field structures the habitus by legitimating ways of acting and thinking but, at the same time, these ways are open to innovative change in the habitus. It is beyond the scope of this thesis to provide a detailed account of Bourdieu's concepts of habitus and field but, because of their importance to an understanding of the socio- genesis of TD, I shall draw out some important features of these concepts. According to Robbins (2000), habitus involves both physical as well as attitudinal adaptations and as such denies body/mind separation. In terms of habitus, behaviour is seen as involving "physically and mentally adaptive piecemeal actions (which) do not constitute a stimulus which conditions how we behave" (Robbins, 2000, p.28-29). Bourdieu states:

"In so far as it is the product...of the principle of vision and division constitutive of a ...field, habitus generates practices immediately adjusted to that order, which are therefore perceived,..as 'right', straight, adroit, adequate, without being in any way the product of obedience to an order in the sense of an imperative... (but) is rooted in a posture, a way of bearing the body (*hexis*), a durable way of being of the durably modified body which is engendered and perpetuated, while constantly changing (within limits), in a two-fold relationship, structured and structuring, to the environment. Habitus constructs the world by a certain way of orienting itself towards it, of bringing to bear on it an attention...As such, habitus is the basis of an *implicit collusion* among all the agents who are products of similar conditions...and also of a practical experience of the transendence of the group, of its ways of being and doing..." (Bourdieu, 2000, p.144-145).

The symbol field of transitional drawing

In terms of attitudinal adaptation, the habitus of TD practitioners includes what Bühler (in Lepsky, 1991, p.30) designated as the 'Symbolfeld' (symbolic field). The symbol field of the habitus is its meaning from what Bühler described as 'Feldwerte' (field values). Thus, for example, the plan view of a building roughly sketched in the TD of an architect derives a meaning, field value, from the symbolic field of architectural drawing conventions with the caveat that these conventions are not necessarily arbitrary, exclusive or inviolate. Fields (and field values) are not, as Robbins states:

"...invariables although they may possess common invariable characteristics..the judgements of value within independent fields are constantly changing, and at the same time, the relations between fields and the relative value of those fields are also perpetually contingent. (However, the concept of habitus) prevents total contingency... there is a constant tension between the urge to create and the urge to conserve...between production and reproduction" (Robbins, 2000, p.40).

The hybridization of field and habitus concepts with Bühler's concept of symbolic fields and field values provides a view of the oscillation between the macro and the micro processes of TD. Bühler further differentiated between representations which are more symbolic and ones which are more iconic. This is a very useful and significant distinction because it posits a "spectrum of ways of representation ...symbolic marks the one end and the image-like the other" (Lepsky, 1991, p.31). This accords with Peirce's distinction between symbolic or linguistic signs and iconic signs (Peirce, 1998). What I find interesting in Bühler's 'spectrum' is that it goes from the abstract symbolisation of the written word to gradations of verisimilitude in the image. This is based at one end on the arbitrary relationship of words to objects and, at the other end to the relationship of graphic signs to objects. As Lepsky points out, this is at odds with Nelson Goodman's (1976) concept that denotation is the core of pictorial representation and is independent of resemblance. But, as Lepsky points out, "Goodman labours under the misapprehension that there is no difference between the word 'tree' and the picture of a 'tree' because both denote the real tree in their own way" (ibid, p.33). Bühler helps us to see that there are gradations of verisimilitude, of

'Erscheinungstreue,' between the picture of a tree and the object of a tree. This is a fiercely contended point, but both Bühler and Gombrich believe that pictorial representation is not based on an arbitrary allocation of the symbol and the symbolized. This of course puts the writing of the word 'tree' further from Bergson's zero point of real action than the drawing of a tree. Polanyi, writing about Bühler, states (in Eschbach, 1988, p.89) that when we use an instrument like drawing "we interiorize the probe and come to dwell in it as in our own bodies". In terms of habitus, the 'embodiment' of the instrument of the TD arises out of the relationship of the subjectivity of the agent and the object of the drawing. This relationship involves the durable 'postures' or dispositions of the body and attitudinal dispositions that often prompt the agent to draw upon whatever is 'to hand'

The transitional drawing and the multi-mode *subjectile*

The bricolage process has been described as using that which is 'to hand.' This, I believe, influences the agent and provides the freedom to move among both spatial and semiotic discontinuities. Thus what is 'to hand' can be an object but it can also be another signifying system. The activity of TD and the nature of the subjectile open the way for the subject to use *whatever is needed* to solve the problem or to advance the state of the subjectile towards a conclusion or state of completion satisfactory to the agent, or towards a collaborative consensus. TD belongs in part to those practices in the arts which function to deepen the subjectivity of agents and, in other areas, it has both this function and 'transactional'

implicit collusion as the focal point of dialogue with practitioners within the same field and/or with clients (Bourdieu, 2000).

We could describe the TD as a disposition to act which manifests itself most of the time in drawing but can also turn to writing, number, directional signs, collage etc. This produces structures of interaction within the subjectile of diverse sign systems and fields. Before exploring this further, I shall return to the previous discussion of the ambivalent role of TD as a cultural artefact. TDs would not, in any conventional sense, be termed 'finished' objects and because of the appearance of writing and other signifying forms, are not homogeneous. They are, in a sense, too adulterated with other sign systems, and often too dirty to have what Benjamin (1973) in his famous essay on Art in the Age of Mechanical Reproduction described as 'aura'. What they do have is the fascinating aspect of "rapidly changing, impatient metamorphosis...not as an achievement but as an entire movement" (Focillon, 1989, p.105).

Günther Kress (1997) presents the idea that young children at the stage of pre-literacy use signs "in 'the most apt form', the best way of representing the meaning they want to convey, the sign that they feel is 'right for the purpose" (ibid, p.39). Kress argues very cogently that our present education system is geared to divesting us of our 'multi-mode' ability in terms of creative meaning making. He describes activity in the complex sign making of young children as a "transduction across modes which encourages the synaesthetic potentials of the child in their transformative, creative actions" (ibid, p.29). Kress argues that, when the limits of one mode have been reached, it helps to be able to switch to another. It should be stated that Kress has observed some of this

switching of modes as moving off the paper into the physical realm, but he also devotes attention to this activity on a two-dimensional surface. Kress describes all of these objects or assemblages as 'hybrid objects'. He states that very often children use language on these objects to indicate action and sequence and drawing to represent and display. He emphasises the temporary, transitional nature of these objects but at the same time stresses the logic of their forms. He also mentions that sometimes the objects are changed collectively. Kress says that because these multi-mode objects are not culturally recognised the conventions that are employed are not sustained in adult life.

Kress's multi-mode objects in the two-dimensional form conform to the concept of the transitional drawing, with its propensity to use other sign systems where this is the best way to convey meaning and produce passage to another state. I do not argue with Kress that this multi-mode activity is obliterated in the process of education, but I do not believe that, because of this, it disappears from creative activity altogether. My view is that TD is a disposition towards multi-mode activity in ways which are compatible with specific goals and 'symbolic field values'; that the use of multi-mode objects in the form of multi-mode TDs is socially transmitted as an implicit practice of certain groups and that it is acquired, internalised and used habitually because of its effectiveness in engendering and modifying ideas and also perhaps because its use reflects an innate human propensity evident in the creative sign making of young children.

I shall have more to say about Kress' multi-mode objects in subsequent cycles of disclosure but now I shall take something 'to hand' as a means of elucidating the multi-mode nature of the TD subjectile.

On my way to the reading room...

Much of my note taking is carried on in the reading room of the Museum for Applied Art in Vienna (Museum für Angewandte Kunst) which is situated just across the road from where I live. The reading room is reached by passing through an exhibition of twentieth century design and architecture. In this exhibition there are twenty two TDs by the architect John Heyduk produced in Paris in 1990 for a projected Giacometti Museum.

The drawings are characterised by the symbolic field values of architectural drawing, that is to say various modes of projection from the diagrammatic nature of plans and elevations to projections which represent architectonic volumes in space. Nearly half of the drawings are done on headed note paper of the kind an architect's office would use for correspondence; on just under a third of the sheets, drawing is used to the exclusion of other modes of signification. On four sheets there is both writing and drawing and on the same number drawing and dimensions. The words signify materials like steel, concrete, glass, bricks, usually in list form but also indicating the quality of materials and processes such as 'black rust', 'riveted'. The name Giacometti appears a number of times and words describing architectural views such as 'plan', 'elevation' and 'cross section.' On the first drawing, a 'hymn to Giacometti' is written at the top centre right and on the ninth sheet five groups of quasi-poetical evocations are clustered around two drawings reminiscent of Giacometti's elongated sculptures; other significations are a series of repeating Rs, one G and a D and several times, under the name Giacometti, the numerals 1 to 10.

On just under a third of the sheets all three modes are employed, drawing, writing and dimensions. Nearly half of the sheets reveal, through the position of words and dimensions, that the sheet has been worked from a number of sides. An important aspect of the drawings is that not all them provide evidence of multi-mode use. TD can be constituted from drawing exclusively but it is a crucial part of my definition that TD, while predominantly utilising the drawing mode, is disposed to the utilization of other modes and even other drawing instruments as a "way of mediating an appropriate cognitive phase" (Lawson, 1994, p.142). The disposition or the freedom to shift mode and drawing instrument is enhanced by the bricolage nature of the TD and the 'to-hand' nature of the surface, which together conspire to help the agent to avoid conceptual entrapment.

In the Hejduk drawings, we can discern the co-existence of poetic evocation, the calculation of dimensions, suggestions for materials and processes, a hesitant and erratic drawing which sits alone on one sheet, emphatic articulation of a particular element, and drawings which, like propositions, are made in sequence with modifications and extrapolations. Ferguson (1992), writes from a viewpoint of drawing as a form of visual thinking, as distinct from verbal thinking. In this he overlooks the significance of multi- mode use in drawing processes. The overall impression or 'look' of TD is often one of the 'polyphonic' interweaving of signifying modes. Heyduk's TD subjectiles constitute a space where drawing is parallel and sutured to other signifying modes and leads to the conjecture that there are as many transitional processes as there are systems of signification, and all of them, to a greater or lesser degree, make use of other modes just as we have seen that TD does.

'Drawing as a way of dreaming up ideas'

I have marked a position in terms of the multi-mode propensity of TD. To further illustrate this I shall approach TD through the testimony of the sculptor Tinguely. I have chosen Tinguely because his work consisted of machines which, whatever their meaning, required to a large extent the design and construction techniques of the mechanical engineer. In this sense, his drawings represent a bridge between two different fields (see Fig.15). Tinguely's TDs are of special interest, not only for the purposes he attributes to them, which will be my main focus in this section, but also because they utilize overdrawing. This overdrawing is not used to compose human movement in the sense Leonardo suggested, but to compose the dynamics and operation of mechanical movement. His TDs are multi-mode like Heyduk's but because of the overriding aim of movement, diagrammatic devices play a very important role.

The directional sign of the arrow is an important and frequently occurring 'mode' in TD. Klee (in Haftman, 1961, p.83) best sums up its importance when in his Pädagogisches Skizzenbuch' (Pedagogical Sketchbook) (1924) he describes the arrow as "the father of thought: how can I extend my reach to that point..." (see also Crone and Koerner, 1991 and Cache, 1995). The arrow suggests the transformation of the static into the dynamic. It is very often the arrow that literally points to transitions of form or to details which need further working out. The figure of the arrow is present everywhere in TD. It carries with it, like a strong current, all the ideas and alternatives which eddy around the temporarily fixed, the drawing of 'uncertain tense'. Its directional shaft, its point of

departure and arrival are armatures for written calls to action, inference and decision. The arrow is the indicator of the movement of thought within and upon the drawing. The arrow is one of the main devices employed by agents in various fields. The arrow says 'move this to there', 'not this but that', 'this moves in both directions', 'rotates', 'this is that part enlarged', 'these things meet at this point,' 'this belongs or should be seen in relationship to that', 'this moves both this way and that', 'this movement is circular', 'this is connected to this and this., etc., etc. The arrow circulates like energy flow within the subjectile signifying retention and extension, fixity and transition. The arrow has the qualities of both dynamism and autonomy. It operates like a free agent around the drawing and the other modes employed in the TD; it constantly breaks open new paths within the modes of signification and makes new connections. It is the shuttle of the mind as it weaves its inventions and findings but also the hook which unpicks the 'Penelopewerk' (Penelope work) of TD, a metaphor for TD which I shall develop later in this section.

The text by Tinguely which I have examined is entitled 'The Artist's Word' (in Hulten, 1987, p.347-349) and most of the artist's words are devoted directly to the role of drawing in his work. I have paraphrased the purposes to which Tinguely puts TD as follows:

Instrumental: TD as a tool or instrument in the solution of technical, material problems and as a clarification and guide to work processes, as something 'pinned up on the wall of the hut' to which the agent can turn 'to see what needs to be done', to provisionally materialize solutions which enable the work to go on and to rectify mistakes before going on.

Connective and Projective: TD as a way into a mental representation by the objectification and signifying practice of drawing, to 'see' what there is in an idea. To connect or link form, movement and function by proposing variants and modifications towards a design solution, and as a way of projecting from one completed work to another.

Disclosive: TD as a means of disclosing the continuity of what has been conceived and created and as a way of retaining, containing and filtering variants, but also as a way of getting 'closer' to an apprehension and understanding of the 'concrete result' and to provide a 'support' for working around a new idea.

Intentional: to resolve the difference between the contingencies of practical intention and 'dreamed of' intention. To 'ground' the self, making 'dreams' concretely possible but also extend the boundaries of intention and question solutions by means of disruptive strategies.

In 'The Artist's Word', Tinguely makes frequent use of the word "dream" and, in fact, a tension emerges between his description of drawing as a practical tool to solve material, mechanical problems,(what is sometimes described as 'working drawings' or 'Werkzeichnung') and the way he describes drawing as a way of dreaming up ideas. I don't think we should dismiss Tinguely's use of "dream" or attempt to replace it with what might appear to be a more suitable word like 'envision' or 'imagine' but instead take Tinguely at his 'word'. Dream and TD have one immediate thing in common. Of the dream we often say (as Freud points out) 'it's only a dream' and of the TD, 'just something scribbled down on a scrap of paper'. But let me clarify what I think is meant by 'dream' in the TD. What Tinguely suggests is that he dreams around a support or surface, towards

a new idea. This involves a drawing activity accompanied by lengthy looking and contemplation. The gaze is the operative function, the look which ceaselessly scans what has been 'presenced' for ways of proceeding. In this state, there are signs to be read which are provisional and suggestive rather than concrete and literal in a state very similar to the day dream; as Harré (in Dutton and Krausz, 1981, p. 36) states, "a kind of penumbral region, wherein structure is simply spatial... and the eye and the hand can present for display more than the conscious mind knows" .

Freud describes the activity of the creation of the daydream as the same as the 'secondary function' in dream formation.The psychic function which carries out this secondary function is, according to Freud, "identical with the work of our waking thought...our waking (preconscious) thought behaves towards any given perceptual material precisely as the function in question behaves towards the dream content" (ibid, p.463). It is a question of contributing a 'plastic intensity' to dream structures. The state of 'dreaming around' the 'support' of past sedimented experience and memories is given a 'plastic intensity' by means of TD. The success of TD as an instrument of this process could rest upon the fact that "images are primary psychic realities" (Bachelard, 1987, p.84).

In Tinguely's 'The Artist's Word' he uses the word 'dream' to describe a state which lies somewhere between "the two poles of clear thought and nocturnal dream" (Bachelard, 1987, p.69). If we take Tinguely at his word, I think we can now say that when he uses the word 'dream' we can understand it to mean 'reverie' but one in which 'the intervention of full consciousness provides a decisive sign' (ibid). We might agree with

Valery (in Nancy, 1994 p.22) that TD "requires a collaboration of devices that once they have signified, ask to be distracted." This distraction can take the form of disruptions or reverie. Both address themselves to the indeterminacy of forms and are a form of drawing 'in , fluid and uncommitted conceiving and creating activity, a process of doing and undoing, bringing us back once again to the exemplification of TD as a 'Penelopewerk'.

The concept of TD as a 'Penelopewerk' derives from my reading of Benjamin's title for his essay on the creative process of Proust, 'Das Penelopewerk des Vergessens' (The Penelope work of Forgetting) (Benjamin, 1995, pp. 266-273). What this essay suggested to me, in terms of TD, is that through the process of TD, with all its cancellations, all its twists and turns, ideas are kept in mind by the action of drawing which enables the mind to forget them at the same time. Forgetting is as important to consciousness as remembering; paradoxically a fact we sometimes forget. If we remembered everything at the conscious level, then consciousness would effectively disappear and we would become like those fascinating, tragic cases mentioned in Sack's book 'The Man who Mistook his Wife for a Hat' (Sacks, 1985).

Once ideas are displayed or, as Heidegger would say, 'presenced', they can be changed, abandoned, returned to, made and remade. Thus what some drawing pulls together, more drawing can pull apart and in this process, because what has been pulled together or apart is 'presenced' in drawing, nothing is irretrievably lost to the mind in the *Lethe*, river of forgetfulness.

'The Great Glass' and the 'Ladies of Avignon'

Tinguely's drawings issue from an area of activity between art and engineering. The drawings of Marcel Duchamp issue from an area between art and philosophical and linguistic concepts. His work is highly conceptual and by any account, he is one of the most difficult, enigmatic and influential artists of our time. Duchamp produced notes to the 'Great Glass' which appeared after a lapse of 11 years "as a flat case containing 94 loose items, each reproduced in exact facsimile including torn edges, blots, erasures and occasional illegibility" conveying "the doubts, the rethinks and double takes, the flat bewilderment and the moments of assurance; the pause and reaffirmations..." (Hamilton, 1983, p.195-196). Hamilton writes of the drawing conventions used by Duchamp as if they were a revelation (in much the same way as Uhl writes about overdrawing): "broken lines indicate elements which, though projected, do not actually appear in 'the Glass' at the stage of completion it had reached in 1923. ... Arrowheads show the path of activity from the source points... the 'Sieves' are presented in exploded view " (ibid, p.189). Later he describes the drawings which form part of the notes as flickering "like a momentary thought; some have been returned to again and again; erasures, underlinings, stresses and amendments abound..." (ibid p. 183).

Duchamp's 'notes' for the 'Great Glass', arguably his most significant piece of work, include drawings and are explicitly part of the whole understanding of 'the Glass'.The "text exists beside 'the Glass' as a commentary and within it as a literary component of its structure" (Hamilton, 1983, p.195).

The notes are predominantly written but there are also many drawings. In relation to the notes and 'the Glass,' Duchamp uses the term 'delay'. He refers to 'the Glass' as a 'delay,' not as a painting or a sculpture. In other words, the materialization of the glass is one stage in the process which begins with the notes. The total process is allowed to juncture in the form of 'the Glass'. The object of 'the Glass' represents a delay in the transitional process between the first cycle of notes and the next. This concept of delay is useful in approaching the relationship of transitional processes and finished works. The form of the final work exists there and not elsewhere, so what is the relationship of the paratext or the TD to the finished product or work? Some of the drawings of Picasso illustrate the difficulty encountered in this 'zone of indistinction' where there are, what Deleuze (in Rajchman, 2000, p.114) describes as 'resonances and interferences', in this case between two different kinds of object: the transitional and the finished.

Leal (1988), in his forward to Picasso's drawings for 'Les Demoiselles d'Avignon', uses a terminology which is compatible to our representation of TD. He talks about rapid sketching, obliterations, corrections, revisions, spontaneity, examination, refinement, close-up views, the parallel existence of conflicting ideas, questions of material size, depiction of general dynamics, accentuations, transmutation and indeterminacy: in other words, a whole gambit of action used to produce a passage of states. But these drawings present a problem.

The problem is one that we meet in many TDs and consists of the nature of some of the drawing. That is, the agent has developed a way of so reducing the drawn image as to reduce its gradation of verisimilitude

for the outside observer to almost nil. This is of great importance in the TD process. This cathartic form of drawing often has the look of a hastily executed scribble which represents all the essentials of a solution. However, such drawings can still be thought of as transitiona, either to direct work in another medium, or further transitional drawing in which details are worked out and variations worked on. Spalt is explicit about the value of the rapid thrownness of this kind of drawing for the architect. He considers the first idea generation drawings **'to be the most valuable';** although this value is somehow aesthetic, it is unrelated to facility. **'Loos was not a perfect draftsman, such that you could say he produced a beautiful line. This is not necessary. He could easily be a little clumsy** (ungeschickt) **in his drawing but expressed more with his drawing than a perfect drawing could. Thus Loos is an example of the fact that an elegant drawing is not automatically a good drawing...His drawings were not so perfect, but they contained in spite of this everything which was in his head. Another example is Otto Wagner, a great Viennese architect. He made a freehand drawing to scale which his students had to work out for him. When one of his people came up and said "I can't make this out, you haven't drawn this out in full" Otto Wagner got wild with anger and said "your eyes are bad, everything is there, everything and exactly."** Such drawing "no matter how inconclusive or unrefined it may be, possesses the qualities of specificity and clarity along with endless freedom for evolution" (Antoniades, 1990, p.67).

The problem in the drawings for Les Demoiselles is that they are of two kinds: those which are transitional and those which have the more

finished look of 'studies'. These studies play an important, if not crucial role, in the passage of states which this sketchbook contains while, at the same time, each study could stand by itself as a separate work. But what does, 'stand by itself' mean? Those drawings where Picasso has produced a 'delay' in the transitional process in order to amplify a part by means of a study have the appearance of product. The TD is an archive of intermediate, transitional steps. The study, which appears in the midst of TD, is itself part of this process: a suspended 'figured forth' transitional 'state' which at the same time can be seen as a 'delay', as juncturing in a 'work.'

But even if a place can be found for the 'delay' in the TD process which is the 'study', we are confronted in Picasso's drawings for Guernica (Chipp, 1988) with a series of studies, often done within a very short space of time, in which in each one there is a minor alteration. Thus in each one a change of state has taken place, although this change consists of a detail. We might describe this as serial transition or repetition with modifications but, at the same time, each one can be seen as a transitional study. Drawings of a serial sequence play a very important role in the action of TD and are based on the trope of repetition with changes. TD as an instrument uses repetition as variations that, as Krauss states, secure their own:

"...pictorial unity both against and in relation to the unity of the theme, it becomes a declaration of the energies of the invention of its author, of the continual upsurge within his imagination of ever new ways of conceiving the original idea..." (Krauss, 1993, p.225).

Thus the minor change of detail from one drawing to the next is the very tail end of the TD process or as Krauss puts it "the mechanism of serial animation..."(ibid, p. 229) and has none of the instability and 'uncertain tense' of the proto-typical TD which is a free zone and a zone of contact between different modes of signification.

But there is another question which arises from the discussion of the relationship between the transitional drawing and the study and takes us back to the use of TD in the collaborative context of the workshop. The study does not, as far as I can judge, have this dimension of talk and drawing. The study would seem to be the product of a more conventional range of drawing skills and does not share the 'give and take' of the TD process or its multi-modality (except in what architects call 'study drawing'). It is an activity carried on in an autonomous context, not in a collaborative, dialogic one, and it is this dimension which will prove of decisive importance in both my further exploration of TD and the subsequent recommendations for education.

Transitional Drawing as 'carrying out' and 'carrying through'

So far, I have approached a definition of TD by looking at the drawings and writings of Artaud, which helped to establish the concept of TD as a subjectile in which the subjectivity of the agent and the action and object of drawing are conflated. In the drawings by Heyduk and Tinguely, the two modes of drawing that emerged in the Renaissance are in evidence: the articulation of a sequence of variations and overdrawing as a means to express movement. The TD is, however, not a ratchet that

ensures the progression or development of ideas once 'presenced' in drawings but is better seen as:

" ...a 'trigger' rather than a determinant, that is given by habitus ...is correlative with the dependence on the past that it introduces and which orients one towards a certain forth-coming: habitus combines in a single aim a past and a forth -coming neither of which is posited as such. The already present forth-coming can be read in the present only on the basis of a past that is itself never aimed at as such (habitus as incorporated acquisition being a presence of the past - or to the past - and not memory of the past" (Bourdieu, 2000, p.210).

TD can then be seen as an acquired and internalised pre-existent 'past' but at the same time, a 'zone of freedom' in which the agent provokes representations that must not be given a predetermining final form and that can call upon other modes of signification in order to produce changes and modifications.

It is in the use of the TD that we encounter its character. The usefulness of the TD, however, is only the consequence of its reliability. The usefulness is present in the reliability of the TD to generate ideas and work towards solutions. This is the work of the TD. The 'thingly' character of the TD is achieved by being worked on. The TD is work, something worked on in order to work something out. In TD, it is the initial 'presencing' that affords the possibility of the work upon the work of 'forth-coming'.

If we return to Heidegger's concept of 'thrownness,' of projection, of sketching out, we can ask ourselves about the purpose of the sketched out nature of TD. The purpose of the sketched out, the thrownness of the

TD, has to do with wresting something and we have already suggested that certain features of the nature and use of the TD subjectile facilitate this 'wresting'. The thrownness of TD produces a presencing or a beginning, a founding act. This beginning, or founding act, starts the chain of 'could be' states. It is what Heidegger would describe as close to *thesis*, of bringing forth into the unconcealed, a 'setting up' or 'presencing' in the unconcealed which is then subject to questioning.

The TD process is completed when what has been worked out in the TD is ready for translation into a plan or into direct action. By 'plan' here, I mean plan drawing. For the TD to provide the impetus for a plan or for action means that it is dismissed, that it has reached the point of closure. Although the TD serves the finished product or the created work, it is neither. TD is work which leads up to a finished product or a created work but it is not this work. What we experience looking at Giacometti's 'badly drawn' image is not what we experience when looking at the finished sculpture, although the sculpture stands in a relationship of resemblance to the drawing and vice versa. The created work or the end product has a self subsistence separate from the TD. The TD says this 'could be,' while the finished work says 'this is' but, at the same time, we have to recognise that the 'is' of the finished work is dependent on the 'could be' of the TD.

A difficulty arises in that some art work, however, has the character of transitionality in that it consists of work upon the work "with no pretensions to a finished statement" (Sylvester, 1994, p.18). David Sylvester, in his book on Giacometti sees most of the artist's work in this way and emphasises that every state which the painting or the sculpture

reached was no more than a means towards the next. In this sense it is a 'delay' although to the viewer it is a finished work. In the paintings of Picasso, transitionality is sometimes very much in evidence. At a recent exhibition of Picassos work, I realised that he must have had canvases lying around in his studio as other artists have paper, and that he would work an idea out on a canvas in much the same way as another artist would use a piece of paper working some ideas out much more fully than others. To the viewer, however, in the cultural context of an exhibiton, all the canvases were imbued with the finality of finished works although many, in my view, were inconclusive, transitional experiments.

In the terms of the centrality I give to rhetorical dispositions in my thesis, Sylvester is very interesting when he writes of Giacometti's work as not offering a synthesis but "as in talk every argument had to be inconclusive, so in the work everything was unfinishable, and as it stands keeps the dialectic going"(ibid p.163). Thus the entire nature of the artist's work appears to be transitional and that works appear at all is merely the result of a suspension or 'delay' of what is otherwise an endless process. As Giacometti said 'I only make by unmaking' (Ibid 1994 p.159).

Third Cycle of Emergent Disclosure

Introduction

The TD is a dialogic mode which takes the form of both self address and external dialogue and both modes, by continual renewal of practice, contribute to the surrounding social ecology of habitus and field, that is to say, the social representations and conventions of fields and the subjective representations present in habitus work as a nexus of reciprocally constitutive effects between the agent and the social. These constitutive effects are a combination of two histories: the personal history of the agent which determines deliberative preferences, and the history of the field, which is the history of the development of the particular configurations which TD takes and which the agent is exposed to, absorbs and sometimes renews. Popper makes the very interesting observation that to the extent that we use the accumulated experience of the past and its heritage of conventions, devices and organizations, the products and processes of our contemporaries and precursors, our minds are constituted as 'World 3 objects'. Poppers 'World 3 objects' are finished objects, revisable but essentially end-products of the conjectural processes of the argumentative function. However, Popper places no great store in the 'World 3 objects' where we see the argumentative function at work but rather focuses on the end-product of that work (Popper and Eccles, 1983).

Deleuze sees our minds in a similar way but as a fold among other folds, which are the diverse products and processes of other minds and

with which we are involved in a constant process of exchanges. Jean Luc Nancy writes of :

"....a mark, an impetus, a habitus which to a greater or lesser extent one cannot avoid sharing with this thought... which does not mean one must incline towards it, nor does it imply that there are not diverse ways of taking this fold of folding it, unfolding it and refolding it in turn" (Nancy, 1996, p.107).

The point here is that many factors and influences are involved in the emergence, exchange and 'fold' process which are mobilized in the service of creative thinking. What we describe as TD is one of these 'folds' but a very important one, because it can be used to both record and explore in a very abbreviated way input from these sources, fold them, unfold them and refold them. As Popper says in dialogue 7, "it is useful to develop the technique of putting as much as possible into the external world 3" (Popper and Eccles, 1983, p.504). What we put into our notebooks and sketchbooks is stored in our brains in quite a different way from what is merely committed to memory.

"If we are ourselves active and producing something, then it is quite insufficient just to work it out in our minds; although this is a very important stage, it is insufficient. We have to write our ideas down, and by writing them down we typically find problems which we had previously overlooked and which we can then think about"(ibid).

Popper does not develop this further but concludes that the work with the pencil on paper "has a definite similarity to the activity of the mind relative to the brain" (ibid). The act of writing or drawing facilitates access to memory storage. In these processes "we are either quite sure that we

have reached what we are looking for" (ibid, p.505) or we reach an intermediate stage which differs somewhat from the final stage of certainty. The diagram, he suggests, operates as a vague indicator of the aim which we either approach or get further away from, but it is with the help of these processes that we finally achieve our aim. Eccles, in the same dialogue, talks about memory being stored in skills which are motor sensory yet, at a higher level, are mapped onto imaginative thinking. Popper would see TD, like the rough drafts of poetic composition, as the material protocols of the interactive process between the mindedness of self and the brain, of thought's progress or lack of progress, states of fixity as well as movement and change, adherence to and departures from a course of constant shaping and re-shaping; as Fiedler states:

A "process of intellectual appropriation whereby we attempt in countless ways to form our vast number of impressions into a mental construct and to make them our own intellectual property... there is a progression from the unformed to the formed" (in Beck, 1988, p.129-130). It would seem that Popper, and to some extent Eccles, make the pencil and paper an extension of the self-conscious mind in its probing of brain activity for what interests it. I cannot do justice to the complexity of Popper's model here, but one of the difficulties involved in adopting it as an explanation of TD processes is the pre-eminent role of the symbolic function in the constitution of human thought processes and the unconscious. In this cycle, I shall investigate TD as an activity of semiosis involving the production of both linguistic and iconic signs. I shall consider the relationship between these signs and the thinking processes which go on in TD, and the very important role of memory and remembering which

TD would seem to facilitate. In this cycle I shall also broach the problem of the interiority of expression by recognizing "that 'expression' necessarily results in exteriority" (Silverman , 1998, p.15), an exteriority which disrupts various notions of the interiority of the mind and of the interior subject. But before proceeding any further, it is necessary to clarify what a symbol is and its relationship to the semiotic terms 'signifier', 'signified' and 'sign,' attempting to clarify the difference between the linguistic and the iconic sign. To do this, I shall trace two different routes, that of Saussure and that of Peirce. I shall adopt Peirce's system, but will also consider the theories of Noble and Davidson, Eco and Lacan .

Signifier, signified and sign

It is evident, on the basis of the link between TD and the tropes of rhetoric, and the often multi-mode configurations of TD, that a discussion of semiotics is important for this study. In the penultimate cycle, I shall link the making and unmaking which goes on in TD, and which I have characterised as the 'Penelopewerk' of TD, to the unwinding of the signifier, that can produce an emergence from the unconscious of originary transitional experiences related to our initial acquisition of the symbolic function.

For Saussure the signifier is, as it were, the pure symbol: in the case of spoken language, the sound or voicing, and in written language, the word. Thus the signifier is the entity, independent of anything conceptualised; it is the mark or the sound in itself. By the signified is meant the concept or idea or value that is symbolised by the signifier, what the symbol of the signifier communicates. The sign is the

combination of the two. The signifier and the totality of the sign have, at least in linguistic language, an arbitrary and abstract relationship to what is signified:

"Signification arises out of the relating of a signifier to one or more signifieds in a context of other signifiers which are at present either in a sentence, discourse, language, or cultural context" (Silverman,1998, p.3).

The relation of signifiers and signifieds produces signification but the problem that the signifier represents in this process is complex. The way I have described TD processes so far would suggest a sliding of signifiers in that what is signified is not immediately apparent but is produced by a chain of signifiers. "This sliding of signification from one signifier to another is what Lacan calls metonymy, while the overdetermination of the signifier in terms of a multipilicity of signifieds is what he calls metaphor" (ibid, p.5).

As Noble and Davidson (1996) point out, Saussure's signifier and signified are both abstract, each one referring to a mental concept which carries the meaning in the form of the sound or the image in the signifier and the meaning in the signified. Noble and Davidson, however, also attach both the signifier and the signified to 'entities' which are tied to 'relations and practices' (Noble and Davidson, 1996, p.115).

Peirce's contribution to our understanding of signs is largely due to his classification of signs into iconic signs, (where there is a resemblance between the sign and the referent), indexical signs (which have an indirect relationship to the referent) and symbolic signs (which are "the result of a convention" ibid, p.112). Most words are in the order of symbolic signs as

they have an arbitrary relationship to the referent: "there is nothing about the word dog that imitates or resembles the animal..." (ib id, p.60).

Let us take a closer look at the symbolic sign. A symbol sign stands for something or represents something. We could say that the word or the drawing are symbolic signs that stand for something else. Symbolic signs can have an arbitrary relationship to their referent as in the case of words or, as Peirce suggests, in the case of iconic signs, a relationship of resemblance or verisimilitude. This points to the first and fundamental difference between words and pictures. A key argument of Noble and Davidson is that words in spite of their fuzziness, do make it possible for human expressions to be made objective and that they are a device "which allows subjective states to be made objective" (ibid, p.67); in other words, what we feel or think can be exteriorised in a form accessible to other people. However, there is a sense in which the symbolic sign, which is the form the exteriorisation is carried by, is a separate entity to the subject while still conveying the subjective expression.

The iconic sign

This detachability of the sign from the circumstances in which it was created gives us the power to refer to what exists but is out of sight, or conjecture about what does not yet exist and to imagine that which does not yet exist. This power of the symbolic sign is not confined to linguistic language but is reflected, following Chase and Dibble (ibid, p.69), in a more general human capacity for symbol making. This brings me to the very complex issue of the difference in the ways the iconic and the symbolic sign operate and particularly the issue of the non-arbitrary

nature of the iconic sign and in what way our understanding of the iconic sign is created. Perhaps what connects, rather than separates, the iconic and the symbolic is that, in order to see a degree of verisimilitude, the referent must first of all have the status of an entity that has a signified, in other words, entities are only entities because we have named them. When we see the resemblance between the iconic sign and a referent we are simultaneously invoking a symbolic sign and its concept.

Let me give an example of inference. My wife and I were walking in the vicinity of the Spanish Riding School in Vienna when we both saw a silhoutted figure on the pavement (see Fig.16 a and Fig.16 b) which neither of us could immediately identify as resembling anything at first, until I saw a tubby beaked figure which she eventually also saw (Fig.16 a). We are all familiar with the kind of language activity involved in such a situation - 'look, there is the beak and there are the legs. Do you see it now? We were both puzzled by the meaning of this figure, especially as we could find nothing to contextualise it in the surroundings. As we passed on, we came to see the figure from a different angle and I suddenly identified it as a horse and rider in a rearing up position (Fig. 16b). The identification in the first instance was a deliberative exercise of choice in trying to make sense of the figure, the identification in the second 'seeing' was the reading of a sign convention related to the famous 'Spanish Riding School' and familiar to everyone living in Vienna. This reminds us of Kant's schemata; as Caesar states, "...a procedure... which permits recognition of other examples of the same type, even though they may differ in important details from the first examples ever seen" (Caesar, 1999, p.165). Llewelyn (2000) calls this procedure one of

'typification and symbolization'. Ricouer argues that both imagination and Kantian schemas "give an image to an emerging meaning" (Ricouer, 1991, p.173). The schematising sends image-ing in all directions, reviving sedimented structures, stirring dormant memories, irrigating adjacent modes of signification.

Ryle (1979) characterised 'recognition' as achievement and, in our language games, we attempt to convince others or get them to see what we have recognised. "Recognising and seeing resemblances thus entails use of language (and a social context) for their achievement'. They are "the occurrences which only arise in the claim-making practices of community members" (Noble and Davidson, 1996, p.81) and, according to Noble and Davidson, are boot-strapped onto language behaviour, which in turn, is precursory to the recognition or production of iconic signs. In this view, consciousness, like thought itself, "cannot be conceived as separate from the linguistic activity that makes it manifest" (ibid, p.19).

A clue to the parallel nature of drawing and the operation of linguistic language in this process might be derived from a juxtaposition of the activity of perception and that of apprehension. Bergson (in Deleuze, 1997, p.34) states that acts of perception involve perceiving "the thing minus that which does not interest us as a function of our needs". We might say, along with Bergson, that perception is editing the image according to our needs and, as such, is an essentially active process. We might then see apprehension as a decision making process about 'states of affairs' but all importantly, these states of affairs cannot be simply stuck together but are subject to modes of constitution, to moves from clarity to doubt, of losing and finding, assertion and antithesis which can constitute

an image as an either/or or a both/and entity. The *Nonfinito* character of TD, its 'forth-coming' and 'uncertain tense' are the product of a disposition towards the action of drawing and active perception based on acquired practices and conventions which leave out all unessential detail and, while facilitating 'implicit collusion' among agents, can also produce contingent inference and interpretation.

The iconic sign as 'transformed correspondence'

The key problem encountered when trying to understand the nature of the iconic sign is that of its relation of verisimilitude to the world of real objects. Eco (1979) helps us to reach a better understanding of this key issue by taking a middle course between what he describes as the two extreme positions on this question. One position is that the iconic sign has the same properties as, or is similar, or analogous, to the referent; the other position, exemplified by Goodman (1976), argues that the so-called iconic sign is arbitrarily coded to the same degree as all language. Eco's position is that while iconic signs are culturally coded, they are not totally arbitrary. Goodman's position is that the arbitrary coding of the sketch, for example, is also such that it is a completed entity in itself, and he calls upon us to completely free ourselves from the idea "that depiction can be defined as reference by a symbol to something it resembles..." (Goodman and Egin, 1989, p.121). The theories of Goodman, like the theories of Greenberg, were of central importance to modernism and its overt concern with the purity of the signifier, which insists on the suspension of any referent in the visual sign. Another approach, adopted by Bühler (Eschbach, 1988) and already discussed, claims that the iconic sign is

similar in some respects to its referent making of similarity a matter of degree. However, Eco points out the perplexities of even a partial similarity of the iconic sign to objects by comparing things in real space with their representations. One of his most interesting examples is that of the outline drawing of a horse which, although it is the sole property that the drawn horse possesses, is a property which the real horse does not possess. The line of the representation separates the horse from space while the real horse is a three-dimensional body with an overall surface contiguous with space. What Eco suggests is that the line drawing or the iconic sign is a simplifying and selective "graphic convention which allows one to transform, on paper, the elements of a schematic conceptual or perceptual convention which has motivated the sign" (ibid, 194).

The simplification process depends on choosing to depict certain elements but not others. In an iconic sign, as Arnheim states, "all kinds of things may be left out which would be present in real life, so long as what is shown contains the essentials..." (Arnheim, 1993, p.38). One of the most vivid memories of my very early school days was being entertained at a school assembly by a man who invited one of us to come up and make a random scribble or scrawl on a large sheet of white paper. After a moment's contemplation and a few additional marks, he turned this into an animal or an object we all recognised. Thus he saw in our scrawl the 'essentials' to a signifier that, with additional articulation, we could identify as a signified. Our ability to identify was linguistically based: 'it's a horse, it's a toad'.

This brings me to the crux of Eco's theory of the iconic sign. What he argues is that it is not so much degrees of resemblance or

verisimilitude that count in the production of the iconic sign but transformation. "A transformation does not suggest the idea of natural correspondence; it is rather the consequence of rules of artifice" (Eco, 1979, p.200). The rule of artifice, or the graphic convention, is the setting up of a relation of similitude by which we learn to read the referents of the iconic sign by selecting the 'essential' percept on the basis of recognition codes. To put this more simply, the recognition of the sign depends on the selection by the agent and the viewer of 'pertinent features' or essentials. These essentials are then expressed as an "equivalence between a certain graphic device and a pertinent feature of the recognition code" (ibid, p.206). Thus the outline picture of the horse is a transformed correspondence between what we see when we look at a real horse in space and at the device of a drawn image.

Caesar (1999) discusses Eco's ideas on signs long after he had written his theory of semiotics. In these later writings, Eco focuses much more upon the 'manipulation of signs'. Caesar states that Eco moves beyond the idea of recognition to a structure which he states "underlies all signifying phenomena, that of implication, or entailment, which generate interpretation. A sign is a clue from which inferences must be made" (Caesar, 1999, p.113). In order to interpret a sign, we 'follow various paths' in order to make sense of them. "The sign itself includes instructions for its insertion in the possible contexts within which it is interpretable" (ibid). Thus Eco's later theory emphasises the dynamic nature of semiosis but this is a dynamic which is "not free to flow, as it were without any check" (ibid, p.12). Here the code is no longer a rule but a system of 'possible inferences,' involving 'the dynamic process of

'abduction' (ibid, p.117): a term which Eco borrowed from Peirce, and that I shall also borrow later in this cycle. Eco (in Caesar, 1999, p.107) states:

"As subjects, we are what the shape of the world produced by signs, makes us become. Perhaps we are, somewhere, the deep impulse that generates semiosis. And yet we recognize ourselves only as semiosis in progress, signifying systems and communicational processes. The map of semiosis, as defined at a given stage of historical development (with the debris carried over from the previous semiosis), tells us who we are and (or how) we think."

Thus memory itself is not the space of static archive filled by the things we see and experience. It is no more of a space than the mind is a theatre or a private cinema performance. 'Mindedness', which includes the workings of memory, is a continuous and complex weaving, unpicking and reweaving of transformed correspondeces between the external world as we experience it through the interpretive and transformative mechanisms of sign systems.

Symbol mediation

Witkin states:

"There is a link between a way of picturing and a way of seeing ... every mode of picturing involves an appropriation of a perceptual system ... governed by the semiotic demands of thinking ... under definite social conditions" (Witkin, 1993, p.114).

We might say the same about TD in various fields and at various historical times. Each field, it would appear, has developed its own

distinctive symbolic items in its use of TD. The symbolic sign of the plan elevation, oblique view , axonometric projection, exploded view, enlarged detail etc., could not function as communication except as understood among the community of users in question as a form of symbolic mediation. Symbol mediation within a particular field means that others within the field can interpret a given drawing as signifying this or that. Symbol mediation makes the drawings of an agent intelligible to, and interpretable by, others. In a nutshell, symbolic mediation confers readability upon the action and object of TD. This iconic codification is not of superficial importance but consists of *Nonfinito* conventions of readability which have developed within the community. What appear to outside observers, and often to practitioners, as effortless ways of seeing and representing are the result of a long and complex historical and social development of signs used to explicate the various links between seeing, representing and meaning. As Bourdieu states:

"Social agents are endowed with habitus, inscribed in their bodies by past experiences. These systems of schemes of perception, appreciation and action enable them to perform acts of practical knowledge, based on identification and recognition of conditional, conventional stimuli to which they are predisposed to react; and, without any explicit definition of ends or rational calculation of means, to generate appropriate and endlessly renewed strategies, but within the limits of the structural constraints of which they are the product and which define them" (Bourdieu, 2000, p.138).

At the same time, and in accordance with the way Boudieu talks about the relations between fields, practitioners of TD often seek outside

the 'symbol mediation' embedded in their habitus for means or strategies to keep the dialectic going, and to achieve a displacement of concepts which carries their ideas further. The architect William Alsop uses painting as a way into project. He uses painting as a mode of 'large thinking', the opposite to "design projected on a napkin over lunch" (Gooding, 1992, p.77). Alsop's imaginative impetus has its beginning in the act of thinking in painting. "His architecture begins not in solving problems but in inventing answers to questions you (and he) didn't know existed" (ibid, p.8). Eisenman (1991), writing about the architect Daniel Libeskind places the drawings of Libeskind (see Fig.17) 'within the domain of the transitory'. Here we have an explanation of what Stimm describes as the 'incommensurability' of some drawings, in that some drawings:

"...exceed the existing cause and effect of drawing/building or drawing /model ...Libeskind's drawings are intimate with architecture by the act, the will, and only the will of the reader to name them so...an inversion of the mode of representation where in a realised building becomes a representation of a drawing..." (Eisenman, 1991, p.120).

Libeskind begins very often with "a set of serial grided collages as fragments of both paintings and architecture, and his own projects" (ibid). Libeskind no longer describes these as drawings but as 'writings' or 'scores'.

Drawing and language

I have alluded to the relationship between drawing and writing. Dieter Schwarz, in his forward to a catalogue of drawings entitled 'Zeichnen ist eine Andere Sprache'(1998) (Drawing is another Language),

supports the view I have developed in my historical reflection of drawing as " the origin of representational thinking" (Ursprung des gestalterischen Denkens...', (Schwarz, 1998, p.10) and places drawing in an historical perspective as closely related to 'Denken and Konzeption' (thought and conception). In his view, in spite of the stylistic changes which have taken place, drawing has retained the salient characteristic of an intimacy of expression (Intimität des Ausdrucks), which we otherwise only see as belonging to writing. Schwarz writes:

"The intimacy of writing or of drawing is not just a question of involution and does not simply mean a turning in towards the self (Hinwendung zu sich selber) but also bears within it the moment of reflection, because the subject in this process does not remain encapsulated but is articulated in the act of sketching out " (ibid).

He goes on to say that part of the relationship of writing to drawing is in the dialogic relationship of speech and counter-speech or argument and counter-argument (Rede und Gegenrede), in which both writing and drawing seek their direction.

TD, in my reading of Heidegger, becomes like the making of poetry, 'a matter of thinking' (Heidegger, 1975, p.99). In the same sense as I have described poetic composition, the matter of TD is to put something before ourselves, to propose it, in such a way that what has been proposed can be changed and something else proposed. This process, says Heidegger, is embedded in reason, which he tells us, is not to be restricted to ratio as rationality but, 'is language, logos' (ibid, p.191). The relationship between language and drawing remains problematic and must be approached with great caution. The German 'Riss' is closely

related to both writing and drawing (Riss is the origin of the word 'writing' in English). In German, the concept of wresting is related to the concept of 'Riss', rift or incision. Reissen is to wrest. 'Den Riss' is the design, ' Reissfeder' the drawing pen and 'Reissbrett' the drawing board, but it is the relationship of the concept of 'to wrest' and to draw, or design, or write which is of importance. Drawing and writing have a quality of projection, of 'thrownness' which facilitates the wresting of an idea (Heidegger, 1975). To begin with, let us propose that the bond between drawing and language is that drawing is a presencing, a 'bringing forth', just as writing or utterance is a bringing forth in order to 'wrest' or grasp something. Thus the thing once presenced is something to speak about, something to be deliberated. A great deal of TD, especially in the fields of architecture and graphic design, has precisely this purpose.

The projection or 'sketching out' of TD brings forth an *objectum*, an over and against, and a standing forth in the sense of something put before us or presenced. In both writing and drawing, thought is turned into a thing which begins a process of unfolding. Once the *eidos*, or idea, has been put forward as a thing, it begins to gestate, it bids more thoughts and very significantly, memories, to come. Both writing and drawing are a 'carrying out' of thought. According to Heidegger, this carrying out is simultaneously a 'carrying through', a *diaphora*. Diaphora is transitional activity. The suggestion is that drawing as a 'language' carries out the unity of thought and language. Thus thought does not come after that which has been drawn but is present in the disclosure, in the projection, in the thrownness of drawing. Thought is carried out and through in drawing. Focillon states:

"The creative gesture exercises a continuous influence over inner life. The hand wrenches the sense of touch away from its merely receptive passivity and organizes it for experiment and action" (Focillon, 1989, p.173).

The material which is brought forth or proposed by TD is granted by the logos which is language. TD turns thought and feeling into an *objectum*, a 'Gegenstand', an object which stands over and against the agent. At the same time, TD could be said to mobilize thought carrying it towards 'the possible' through processes of argumentation. Thought comes to rest in the drawing but at the same time, in its over and against quality as an objectum, becomes restlessly active in bidding further thought to focus on the object of discourse and build towards a goal. But how does the agent know when the desired goal state has been achieved and the TD can now serve as the basis for a plan or direct action?

It helps here once again to return to the paradigm of poetic composition. I have talked about the TD as an objectum and prior to this I have conflated the agent and the objectum of the drawing into the concept of the subjectile. Both of these interconnected concepts rest on the 'thingly' nature of the TD. But the TD is a special kind of thing, made up of iconic and other signs and, as such, it allows something to be seen. The thing, or objectum, of the TD is the focus of discourse. Ricouer (1991) talks about discourse as a given, as 'an event'. What does this mean and what is its relevance for our understanding of TD? Ricouer states the event of discourse is always about something, and is an event in which messages are exchanged. This discourse is often conducted between people; the someone to whom the TD is addressed can be an external

interlocutor but it can equally be addressed to the audience of the self. My informant, the Austrian sculptor, Oswald Stimm, most frequently uses TD to address the audience of the self, but also as a form of explanation or clarification in dialogue with the others, and he used it frequently in his teaching. For the graphic designer, Linda Vander Weele, drawing is an integral part of her transaction with clients, but she also uses it in an autonomous context. The architects among my informants, Robert Kanfer and Johannes Spalt, both highlighted the importance both of drawing among practitioners in the architect's office and autonomous use.

If we think of TD in the terms used by of von Wright (in Ricouer 1991), then TD is a closed system which allows us to define initial, intermediate and final states. Von Wright places all human action in such closed systems. A closed state system is set in motion by an intention described as an initial state. This setting in motion derives from "actions that we know how to do because we can do them" (Ricouer, 1991, p.136). Knowing what I can do, or knowing how, is a necessary condition for identification of the initial state and of closure, of how to presence and of how to conduct the ensuing discourse. "Acting is always doing something so that something else happens" (ibid, p.137). The act of drawing, like that of writing, leaves a visible trace which we have called the objectum, which both stands over and against the agent in a relationship of connectedness and autonomy. Whether it is the arbitrary linear sign of writing or the non-arbitrary, non-linear sign of drawing (both are of course linear in terms of duration or unfolding in time), both are open traces productive of an infinite, and indefinite series of possible changes or paths. The act of TD and of 'process writing', or drafting, allows a plurality of directions and

emerging patterns to appear. These paths are essentially the discourse, the argument and counter-argument which Schwarz (1998) talks about and which could be described as a discourse of preferences. Why one course of action and not another, is of course, based on subjective dispositions sometimes manifestly connected to external constraints and considerations. Aristotle has a word for this combination of deliberative preferences: *proairesis* (see Engberg- Pedersen, 1983 and Nussbaum, 1986)). *Proairesis* is a combination of desirability based upon subjective disposition and actual or deliberative reason. This combination is described as the logic of praxis, which is neither purely speculative nor purely irrational.

The relationship between writing and drawing within the space of the TD can be further illuminated by using the metaphor of Heisenberg's 'uncertainty principle' whereby in certain quantum mechanics, vibrations sometimes behave like particles and sometimes like waves (Gleick,1994). Let us think of words as particles with meanings that have a stable continuity and images as waves which exist in a state of potential alignment with the particularization which language affords them. Images can unwind without words but the decoding of the images is dependent on linguistic concepts. In TD, as Mitchell states, "word and image...resist stabilzation" but exhibit "a tendency to unite, dissolve, or change places" (Mitchell, 1996, p.53).

The 'not yet' of expectation

I have characterised the 'transitions' of TD as emerging from an initial state or presencing followed by a number of stages of development

and alternatives in the passage of one state to another. Castoriadis states that the structure of subjectivity in Heidegger is based upon "the expected, the memory and the present" (Castoriadis, 1991, p.45). The presencing that is the initial act of TD is pervaded by expectation. Vander Weele talks about a presencing that is an interpretation of something which already exists: **'Gee, I wonder if something like that would work. What if I... what if I did something where you get the feeling that it follows through but is broken up'.** But Vander Weele's expectation is not only confined to the presencing of drawing. She is all the time open to the real in a state of expectancy. **'I will have a proposal out and begin picking up cues in my environment'** and elsewhere **'I am kind of looking around the room for something. Sometimes if I have got to do a presentation and I've got three days to come up with something, it seems then like I am looking around everywhere. I am looking on the bus, I'm looking in the grocery store, I'm looking as I am doing the kids' schoolwork. I notice some little map emblem or something...'**

In Ricoeurian terms, expectation is inscribed in the present, it is the 'not yet' and involves the emergence of forms and their surpassing. This expectation, according to Ricouer's theory of action (1991), is in tension with the sedimented structures of experience. As Ricouer states, expectation tends towards "the breaking open of new perspectives. In this sense, expectation can never be derived from experience; the space of experience is never enough to determine a horizon of expectation" (ibid, p.218). Experience and expectation do not cancel each other out but, of course, mutually condition one another. This involves an attention

to the 'thing displayed' about which reasoned preferences are made, *Proairesis.* In effect this is a decision-making process but, as Schon (1963) states, it is of critical importance to recognise that this does not involve the formulation of clear cut alternatives of action because: "Projection actions, when they are juxtaposed influence one another...much of our best practical thinking takes this form of questioning of the formulation of the problem so that all alternatives are changed" (Schon, 1963, p.122).

It will help us at this point to list Toulmin's descriptive scheme of the three levels of awareness or attention. Toulmin's scheme is based on the premise that "consciousness entails intentionality. Just as speaking is speaking about something, consciousness is consciousness of something" (Noble and Davidson, 1996, p.14). Toulmin's schemes of levels of consciousness are as follows:

1. Conscious sensibility is synonymous with awakeness. A conscious being at this level perceives environmental stimuli detected via the senses.

2. Conscious attentiveness as distinguished from unconscious attentiveness where we do things on a kind of automatic pilot level.

3. Conscious articulateness which is fully self-conscious expression of, for example, thoughts, plans or intentions. Toulmin then describes a state which would seem to play an important role in TD: that of unconscious articulateness which is activity that is unmotivated yet able to be recollected and described. (I have relied heavily on Noble and Davidson, 1996, in the wording of this schema). None of these activities, however, accurately describes the state of 'reverie' in which for example

Stimm often generates ideas in drawing a state that he describes as **'boredom'** or **'tedium'** (Langeweile). Stimm, speaking in English, says **'In a state of not being able to draw...half sleeping but aware. I hope to make a drawing in this state. Because if you know exactly what you want you do not have the need to draw. You must be an adventurer, it must be an adventure'** and **'Awareness is supported by a forgetting of things around you...a concentration based on forgetfulness of the trivial of the everyday'.** Vander Weele also has ideas which are generated in a state of half sleep but this is not consciously induced. **'I am lying in bed at night, especially if I am under a lot of stress, it has got to be done and nothing is coming. I'll be lying in bed at night and I wake up at two or three in the morning, and then I do have something next to my bed, so I will have a pen and a notebook next to my bed. If I draw, it would be something as simple as...an image that goes like that** (drawing) **and an image that goes like that, and then I might write 'interlocking'. And that will restimulate what I was thinking of when I was half asleep. I won't even turn on the lights, so this is like that, but it's enough to remember in the morning because I am worried that I will forget the whole process'.** It is very interesting to note that in both Vander Weele's 'looking out' for things in the world and Stimm's 'reverie' there is a level of expectation induced by the experience that these states produce ideas. Also, in both states, a point is reached where a choice is made, a tentative decision to follow a particular path or stimulus.

So far I have provisionally identified two extremes of TD: one which involves a 'thrownness', often involving very rapid drawing, and one which

involves a slow unwinding in a state of suspended intention. The example of Vander Weele, who wakes up in the middle of the night to draw something in the dark, suggests the rapidity of one and the unconscious processes of the other. But the rapidity of 'thrownness' of TD also raises difficult questions concerning the relationship between internal 'mental images' and external drawn images.

'The mind's eye'

I have said that the discourse of the TD can be addressed to the audience of the self, of the 'I talking to its me' as Mead described it. This does not necessarily imply a view, still current in much thinking and writing concerned with creative processes, of the drawn image as unfolding on some mental screen before the gaze of an internal, spectral spectator, of something inner turned into something outer, suggesting that there are pictures in the mind which can be viewed with an inner or mind's eye and which would seem to have another status than perceptual images or the pictures drawing produces on paper. Ferguson (1992), in his book entitled 'Engineering and the Mind's Eye', views the 'mind's eye' as a tangible entity stating that:

"The mind's eye is a well-developed organ that not only reviews the contents of a visual memory but also forms such new or modified images as the mind's thoughts require" (Ferguson, 1992, preface).

The assumption of the existence of the mind's eye creates a number of conceptual difficulties. It is nevertheless something that was part of the conceptual apparatus of all of our informants. Stimm had this to say when asked if he ever produced a sculpture from an idea already

formed in his mind. **'I do not think that I can see a finished sculpture in my head. I have to feel the material under my hands and then first of all to know how the bodies or elements stand in relation to each other'.** However, Stimm expresses great interest in the phenomenon of *eidectic* images described by Horowitz (1995) as particularly vivid memory images, but Stimm says, **'Somehow the material has to be part of this...for example an angle from two elements and how they can stand together will ignite the creative process which lead to the sculpture'**. Mosswitzer said about picturing ideas in the mind **'I don't look into the brain and that is why I don't know if it is a picture, but I suppose it is a picture. A picture which has developed over a period of time.'** Ryle, Goodman, Lyons, Wittgenstein and Noble and Davidson have all challenged the concept of the mind's eye and I shall briefly summarize their views.

Goodman and Elgin (1989) take the bull by the horns and reject the existence of a little theatre in the mind and the idea that there is anyone to look at these pictures. The paradox is that, although we can talk about and describe such images, there are none because having a mental image is not a question of possessing and inwardly perceiving an immaterial picture 'in something called a mind' but a matter of exercising certain skills with regard to material pictures and descriptions. "Talk of mental representations turns out to be talk of cognitive activities" (Goodman and Elgin, 1989, p.90). Our ability to produce a mental image is dependent upon our skills with sign systems. This posits some kind of reciprocity between sign systems and mental imagery. In other words we have pictures in the mind because we use various sign systems.

The inner perception of immaterial images is clearly related to the concept of introspection (from the Latin words *spicere*, to look and *intra* within). Lyons (1986) carefully plots the historical stages in the development of our ideas about introspection and highlights the contradiction we have already touched upon: "that any account of introspection will involve the inconceivable, and so incomprehensible, process of consciousness being split into the observer and observed at the same time" (ibid, p.11). An important part of Lyons' argument is "that children take a long time to develop any conception at all of introspection" (ibid, p.97). He says this suggests that introspection is a capacity developed as other abilities are used in more sophisticated ways. Lyons' theory is that introspection is connected to the development of seeing and encoding, which again makes introspection dependent on language acquisition. What Lyons states is that there is seldom looking without seeing. As soon as we are attentive we are seeing, which involves both centred and peripheral attention. This is not a passive activity but discriminative and interpretive. Lyons further claims that introspection is a culturally determined behaviour and cites evidence of its non-existence in some cultures. Finally, Lyons bases the capacity to introspect not as a gala performance for a cycloptic inner self, but as a process of 'perceptual replay' in which expectation, attention, memory and imagination are put to a certain use. This use is not a copy of the traces of experience and perception, but adapted and edited to suit a present purpose. Above all visual introspection is tied to 'ways of seeing'. In other words, if a large part of our perceptual activity *is permeated by a particular mode of seeing, then this will form the basis of our mental picturing.* The 'replay of

perception' which Lyons talks about dispenses with the idea of immaterial pictures and replaces them with *replays of acquired ways of seeing,* although he does say it is possible to superimpose elements and produce combinations which did not exist in perception. Thus introspection, according to Lyons, is at a level parasitic on perception and memory, and on cognitive processes such as deliberation, judgment, choice, planning and intention. Lyons turns introspection into a reconstruction process and not a scanning of first order events in, as Goodman and Elgin say 'something called a mind'.

If the capacity to introspect is culturally acquired, as Lyons suggests, and there is no inner eye, then perhaps the concept of mind is also a social or cultural construction, which is the view of Noble and Davidson. I remember being very surprised when I discovered that, whereas we point to our head when referring to the seat of the mind, the Japanese point to the region of the heart. Noble and Davidson (1996) "dispense with the term 'mind' as referring to any sort of natural entity, whilst arriving at a position which shows that behaviour understood as 'minded is essentially interactive" (ibid, p.85). They squarely base all minded behaviour on the symbolic use of communicative signs, thus making human minds a social construction.

I cannot do justice here to Noble and Davidson's thesis, that principally concerns the origins of language, but essentially their position is that of both Wittgenstein and Ryle in that we need not locate as an abstraction situated forms of conduct in a place called the mind but rather can understand 'mindedness' as witnessed only in forms of conduct. This rejects the Cartesian position of the individual having exclusive

access to his own mind with the existence of everything else being in doubt. As Rajchman states:

"The idea of mind or of thought fully ordered by itself or internally makes sense only when its relation to an "outside" has been eliminated' (Rajchman, 2000, p.72).

Wittgenstein's position was that mind was not at all a one-man show but based on language games which make every day interaction intelligible.

What follows from Ryle's theory is that it is very difficult to change one's view of a process until one has changed the words used to describe the process. We still use the expressions 'to picture' and 'picturing' to describe mental activity. Ryle states that it makes no sense to locate images or pictures in an interior space cut off from the external world. This impinges upon our study of TD which could otherwise well be seen as the externalization of inner pictures. Ryle (1949) presents us with perhaps the most difficult and subtle dissolution of the concept of the inner eye of the mind in his examination of an inner mental world as opposed to an outer world of material objects and behaviour. Ryle approaches the problem from the angle of an inappropriate use of language dating back to the 17th century's mechanical view of the universe. Here things non-mechanical had to be given a location, and the concept of mind became the candidate, as Ryle states, (in Noble and Davidson, 1996, p.100) for those things "not accessible to public observation. Minds are not bits of clockwork, they are just bits of not-clockwork". This 'not-clockwork' became, with Descartes, inaccessible to any but the individual thinker. The point that Ryle arrives at is that in any consideration of mind "(1) We

are not witnessing performances 'down-stage' (to borrow the Cartesian theatre image), under the control of an unknowable mental apparatus that is behind it all yet out of sight. (2) Criteria to appraise conduct are sustained within linguistic communities by social interaction between people" (ibid, p.103). What Ryle is saying is that mindedness is and only is observable in the interactive context of language because mind is language. Mindedness exists in the varieties of language use in the production of human life and artefacts. Noble and Davidson "offer a picture of mind as perpetually 'dialogic', in which the dialogue may be the form of self- address, yet in which the discourses forming it are taken from and contribute to the surrounding 'social ecology' "(ibid, p.105). Noble and Davidson are to some extent in agreement with Ryle and Lyons in that they believe that the 'form and features' of an individual's mindedness are dependent upon the "discourses the person has been committed to" (ibid, p. 226).

Once we have a reason for acting, a motivation, then practical reasoning "consists in ordering the chain of means in a strategy" (Ricouer, 1991, p.194). The main aim of this strategy is not, as Aristotle held, to deliberate about ends but about means, about ways of keeping the dialectic going. To keep the dialectic going in the external social context of TD involves the use of codification and values prescribed by the particular field. Here we might use 'symbol mediation', a term coined by Geertz (1973) for the codification of social action within which individual action takes place. This symbol mediation would seem central to the operation of TD in field and habitus. The point is that agents use iconic conventions that permeate their ways of seeing and which they invest with private

features of desirability and usage. As Spalt states, **'The drawing is the language of the architect. I have to express myself and communicate'.** Stimm recognised that drawing conventions are cultural and not simply psychological entities: **'If an architect drew like this he would run the risk of landing up in utopia'.** Stimm also talked about the difference between what he called **'Werkzeichnung'** or working drawings, and drawings which had something which he described as **'incommensurability'**. This did not mean that he could not work from the latter, but rather that only he could work from it while **'anyone with some training would know how it** (the Werkzeichnung) **works'.** He described the working drawing as **'a reduction to construction'** (Reduktion zur Konstrucktion) **'a preparatory step to the work of sculpture'.** The **'Incommensurable'** element was what he saw that I could not see, **'You do not see the wood I will use but I already see the piece of wood I have. I can see it directly...'**

"getting to see what needs to be seen'

In his last book 'On Thinking' (1979), Ryle gives us, in his imaginary second interview between Socrates and the slave boy, an important insight into the TD process. In this passage Socrates and the slave boy are both searching for the second half of the second theorems proof, so they are both walking over unfamiliar ground on hypothetical tracks or 'candidate tracks' or 'tracks on appro'; encountering impasses but also finding a viable track. The breakthrough comes when:

"...he chalks upon the back of an envelope a diagram which he does not know to be even an approximation to the right one, in the rather

faint hope that it may *get him to see what he needs to see'* " (italics are mine) (Ryle, 1979, p.75).

This paragraph was written in a cafe in Vienna and while writing it a man sitting at the table beside mine asked if he could borrow my pencil. When I had given him the pencil he proceeded to draw on his coffee bill an arrangement of rooms in a flat for the man sitting opposite him (Fig. 18). When he had finished, the other man took over and began to draw modifications to the arrangement. Ryle describes the drawing on the envelope, or in our instance the drawing on the receipt, as an 'unfledged argument' and as 'working experimentally with a merely could-be argument'. The main difference between Ryle's protagonists and the TD practitioner is that the latter, through experience, has more than a faint hope that drawing will get him to see what needs to be seen. That part of the quotation that is italicised emphasizes the importance of 'seeing' an idea, of placing an idea on paper before our eyes. It is what Heidegger (1975) considers as the process of 'condensing' or 'Verdichtung' that, as I have already said, is the essential process of poetic composition. "As soon as we have the thing before our eyes...thinking prospers" Heidegger, 1975, p.5). Socrates and the slave boy, and the men at the table next to mine in the cafe, were using drawing to see something in terms of possibilities. The implication of Ryle's example is that some things need to appear before the eyes, need to be fixed in order to be changed or developed. The fixing, or presencing is a first step, a 'fledgling argument', 'towards' a solution.

Let me go back to Ryle's words about 'working experimentally with a merely could-be argument'. The kind of thinking involved in 'getting to

see what needs to be seen' is part and parcel of generating tentative and plausible hypotheses. This is what Peirce described as 'abductive' reasoning, making the important distinction between reasoning from a hypothesis and reasoning towards an hypothesis. In Ryle's example, the drawing was done without knowing it to be even an approximation to the right solution. Nevertheless, we can suppose that the drawing was done with some reason for the probationary hypothesis, something was present in the mind that needed to be seen before it could be adapted, improved or modified. To describe this process, Peirce used the term 'abduction', which involves the 'invention' or proposal of an hypothesis. In the Ryle story, the proposal very importantly takes the form of a 'presencing'. The essence of abduction lies in the process of forming and finding. Habermas (in Roozenburg, 1993) has more closely defined the kind of abduction I believe to be taking place in TD as 'innovative abduction'. The starting point is invention in which "someone relates a new form to some purpose, in the way that no one has seen before" (ibid).

Drawing opens the path to getting us to see what needs to be seen and places the agent in a 'displacement', expectant frame of mind in which, whether the agent is working alone or in dialogue with someone else, the drawing makes it possible to keep track of the totality of what has been put forward. The most important implication of Ryle's example is that the drawing "is not a transparent translation of thought into form but rather a medium which influences thought just as thought influences drawing" (Fraser and Henmi, 1994, p.7). Drawing *in order to see what needs to be seen* is a path-making move over Ryle's 'hypothetical ground'. Both Socrates, the slave boy and the two men in the cafe were

involved in TD insofar as they were involved in producing tentative transitional movements of thought *embodied* in drawing accompanied by dialogic exchange.

In the TD, very often a number of sign systems are put to use pragmatically to further passages of transition. It would seem that the TD attracts all semiotic comers to take part in its process, giving it the character of what Kress has called a 'multi-mode object'. To get to see what needs to be seen implies the priority of 'seeing' a representation, a drawing in order to carry thought further. As Eccles states:

"In order to try to come to terms with the experimental results that I am trying to explain I start to draw diagrams to see how it would go, and I put up theories with some diagrammatic base...these simplified models enable me to develop my conceptual thinking and so develop further testing experiments" (Popper and Eccles, 1983, p.465).

It is not the mere materialization of something already formed in the mind but the selection of a mode of representation that is the indispensable motor and conceptual ally of the subsequent thinking process.

Returning to Ryle's imaginary interview between the slave boy and Socrates, the drawing was done with something in mind, and this something had to be seen in order to get further. Thus we have an interpenetration of thought and imaging producing a bridge between inner and outer. However, we can, following Deleuze (1995), dispense with this distinction between inner and outer by placing emphasis on the exchanges which take place and the subsequent movement; in other words we can place emphasis on the 'thingly' nature of the TD, on the

material entity. What we see in the drawing on the envelope or on the receipt is thought which has become an autonomous object. Valery once said, 'There is nothing deeper than skin', and in a sense there is nothing deeper than thought embodied in a sign system. What we see in the drawing on the envelope or on the cafe receipt is an image behind which there is an image we cannot see, and even if we claim to see it ourselves, it changes its essential nature as soon as it is put on paper. Thus the drawers on both the envelope and on the receipt knew through experience that making something seen would help them to see, to grasp. Both the groups of drawers we have mentioned 'grasped' that they needed to see something in front of them on paper in the knowledge that this would produce a disposition to act in a specific way. What this specific mode of action did not involve was a clear cut-recipe of how to achieve an end result. What both parties did in the absence of a recipe was to use, in Maritain's words (in Mitcham, 1994, p.125-126), "..prudential rules not fixed beforehand but determined according to contingency". This approach would seem to be based on experience, imaginative thinking and interaction with the external world of objects and other people. Ryle (1979) helps to clarify imagination when he equates it with any moment in thinking that involves innovation, invention, discovery, exploration etc. This is helpful in the sense that Ryle makes imagination central to any creative thinking process.

Lacan's orders of the Imaginary, the Symbolic and the Real

It is of great interest in this context that Lacan narrows the function of the imaginary to the 'identifications and reciprocosity' embedded in

experience, and invests the imaginary with the characteristic of 'fixity', a fixity to which we return again and again (Bowie, 1991). The intriguing thing about this 'fixity' is, that for some of our informants, this was not unconscious but was embedded in early experience.

Stimm, when describing what might have been the origins of his interest in the 'Kipp moment' (the moment of kilter) in his sculpture, suggested that it might be based on a set of wooden bricks which he described as being very important to him as a child and which he would repeatedly pile up into a tower only to observe with fascination the point at which the tower toppled over. **'This was perhaps an early childhood memory of a box of building bricks which I had and I would lie under the tower I had built and slowly withdraw a brick and wait for the tower to topple onto me'** and **'I was about five years old. It was a wonderful thing and what fascinated me more than anything was building and destroying. It is always about the same theme the upward kilter or slow disintegration..'** Spalt was also able to trace back to childhood one of the main sources of inspiration in his architecture, the pavilion and glider construction. **'As a boy I played in a Salettl** (a form of pavilion) **or built model airplanes. We often moved and there was always a salettl there. In our play the 'house' always played a great role'** and **'From this early passion I began to collect literature about pavilions and because of this I have naturally come into contact with with many different cultures, for example Persian, Chinese and English culture'.** In terms of his innovative use of the 'Paravent' (screen) to divide interior space, Spalt remembers that **'Screens were for me fascinating. My grandmother had one on which**

was Columbus' discovery of America. The screen always concealed something, even one's self, of course. I had the idea that a house could be much more beautiful and pleasant if there was just a roof, because you must be protected from the elements, and under the roof but independent from it were screens which formed the space but could also be changed in all directions and extended'. It is interesting to note that Spalt did drawings of pavilions before he began his architectural studies and he drew his first idea of the screen during a life drawing class.

Although we must be very careful about the explanatory validity of such accounts, there do seem to be some grounds for seeing certain orientations to action as a restoration of signs "*which have something which will always be important for us* " as Winnicott states (italics are mine). Stimm stated that **'in art there is an almost religious conviction that we find the morphological complexity of our own identity on the basis of the diversity of the things we make and which, in spite of their diversity, produce a recognition of unity and the identity of the self'.** Eco (in Caesar, 1999, p.8) would say that what takes place is the semiotic displacement of a Dynamic Object into an Immediate Object, "if there is a Dynamical Object, we know it only through an Immediate Object. With our manipulating signs we refer to the Dynamical Object as the *terminus ad quem of semiosis."*

It is not the Imaginary that has dynamic or mobility in Lacan's orders but the Symbolic. This 'is the realm of movement rather than fixity' (ibid, p.92). This is the semiotic realm. The Imaginary can be seen as having the hallmarks of the Ego and the Symbolic as the means by which

the subject inchoately develops, through both intrapersonal and interapersonal, or social processes. The Imaginary and the Symbolic orders are a "contrasting and interdependent pair ... each is implicated in the redefinition of the other." (ibid, p.93). However, Lacan does not stay with this dyadic relationship but moves to a triadic one, in which he aligns the order of the Real to the preceding ones of the Imaginary and the Symbolic. Stimm says **'as an artist one is a membrane, a porous layer, one has osmotic qualities, one lets external impressions penetrate deeply, one is an arbitrator, one is a filter ... One is nothing more than an interpreter of many influences and external currents. Perhaps this is the opposite to the concept of genius that I think today we can forget. One is a product of all manner of sensory impressions'.** In Lacan, the Real constantly displaces the relationship between the fixity of the Imaginary and the dynamic of the Symbolic.

In Lacan's order of the Real, the role of 'chance' plays an important part in the way that it encroaches upon the subject. Stimm provides examples of this but one is particularly interesting because of its inherent irony. (Stimm talking in English): **'I am very unlucky that I have so many writing tools and in the moment I have the wish to draw something I take the wrong instrument ... by mistake, maybe, in spite of taking the wrong tool it seals the idea.'** (switches to German): **'A lot of ideas are produced by the wrong tool. This is why I always have a great deal of disorder in the work space, and in the back of my head I have lots of ideas which constantly nourish me. It can happen that I will be working on something and find I am missing a part and I**

look around and find the part I need. You know where you have things like the squirrel knows where it has buried its nuts in the ground. I have visited the studio of Hockney and the whole floor was full of drawings. I should have taken one (laughs). One had to step cautiously.'

The Real is "firm and obdurate, yet its intrusions upon the subject cannot be anticipated" (ibid, p.110). This aspect of the Real has particular significance for the transitional processes of some of our informants and is also closely related to the way the concept of 'bricolage' and the found object nature of the TD support have been used. The Symbolic has, of course, powers over the Real by virtue of the fact that "it is the world of words that creates the world of things" (Lacan in ibid, p. 95). We are reminded here of what Wheeler (1993) has to say about Coleridge's: "...awareness of the power of language to bring things into being, the extent to which nature is a product of culture and the constructive role of figuration in intelligent experience" (Wheeler, 1993, p.69).

The Symbolic puts the Real to work but the Real in its turn gives the Symbolic and Imaginary additional work to do. All three orders impinge upon and pressurize one another. This has a number of advantages for our understanding of TD. In terms of TD, habitus can be seen as belonging to the Real but at the same time its practices and 'symbol mediation' involve the Symbolic order, which to different degrees is infiltrated by the Imaginary; much TD is conducted in an intrapersonal.

Lacan helps us to understand how these orders overlap, but it is to Walter Benjamin and Bourdieu that we turn for a concept of the relationship of this integration to experience and habitus.

'We are disposed because we are exposed'

Benjamin (in McCole, 1993) described two forms of experience: one immediate, and another that represents an accumulated stock of lived experience. In German, the former is called 'Erlebnis' and the latter 'Erfahrung,' and between these two he posits a mutual exclusivity in that the lived experience of Erlebnis does not become part of the memory structure of Erfahrung in a pristine form. Rather, the memory implicit in Erfahrung is a distorted reconstructed resemblance. Benjamin based his exclusivity of the two forms of experience on his understanding of the structure of time and forgetting, and on social factors which influence the structure of experience. What he is getting at is that some forms of social organization, and their accompanying conventions, dispose us towards the retention of that which we want to remember as well as providing a framework in which involuntary memory can operate or, rather, where the bifurcation of involuntary and voluntary memory would lose its exclusivity. Bourdieu states "we are *disposed* because we are *exposed* (Bourdieu, 2000, p.140). The dispositions inherent in habitus are acquired by means of "an openness to the world, that is, to the very structures of the social world to which they are the incorporated form" (ibid, p.141). This openness involves a 'growing into', through use and appropriation of the dispositions of a particular habitus. Thus the practice of 'referential drawing', (drawings made for use in generating and developing ideas at a later point in time), is a key feature of the accumulated 'Erfahrung' of the TD practitioner. By virtue of its structure, TD facilitates the 'Vergegenwärtigung', the 'making things present' of Erfahrung but also those forgotten moments of Erlebnis which appear in the form of

involuntary memory and which form some of the material of drawing in a state of attention which is described as 'reverie' (Bachelard, 1987). In other words, TD is acquired in an openness to activity based on an 'immediate relationship of involvement' that enables the agent to produce elusive and intangible resonances between the present moment of drawing and one from the past. The acquired disposition to produce so-called 'referential' drawing greatly facilitates the capacity of our memories to associate moments removed from one another in time. Lawson describes this form of drawing 'as part of the infrastructure of knowledge that every designer must establish' and goes on to state that:

"The process of drawing is one of the best ways we know to absorb design ideas. The need to pass an idea from eye to mind to hand results in a level of understanding not necessary when simply looking at or photographing an object or place. Perhaps this explains why so many designers keep sketchbooks to record things they see" (Lawson, 1997, p.246).

I shall go much deeper into the way TD is acquired and the role of memory and referential drawing and will even question the appropriateness of the word 'referential', but for the moment hold that 'referential' drawings and drawings done in a state of 'reverie' are ways of acting and seeing as a product of social selection and adaptation to the needs of specific communities and to the subjective preferences and interests and preoccupations of the agent.

The TD practitioner operates with an external set of available and field determined conventions, and graphic devices and practices. The idea of graphic conventions and structures of discourse appears to be in

opposition to the idea of the 'free play' of imagination and to a concept of creativity as in some way free flowing (see Csikszentmihalyi, 1996, for a 'flow' theory of creativity). The agent's *habitus* is the product of the personal engagement of the agent in these practices which are received and modified even as they modify the consciousness that receives them, such that Bourdieu states that "the agent is never completely the subject of his practices"(Bourdieu, 2000, p.138). This enables us to conceive of the agent's particular habitus as a weave that inheres in the agent as a complex of habits resulting from the semiotic interaction of the internal and the plane of exteriority. A conjunction that involves the continuous involvement and construction of the self.

Drawing 'in order to take inside'

Pauly, in her essay on the creative processes of Corbusier (1987), concentrates exclusively on documents which show 'the rough stages' of Corbusier's creative process (see also Baker, 1996). These referential drawings reveal the "seminal idea and the first outline of a form" (ibid, p.127). In carefully tracing the development of a project, Pauly reveals the extent to which Corbusier's ideas relied on referential drawings of quite disparate entities. Pauly gives a number of examples: the chapel roof was based on the combination of a crab shell and an aeroplane wing that is found in his drawings; the roof was based on an illustration and a sketch of a hydraulic dam. Pauly writes:

"The initial form of the shell is developed, revised, and takes the structure of an aeroplane wing...thus in order to find the sources of inspiration that would complement his work, the architect drew on a very

diverse store of reference...It is obviously not a question of compiling a kind of catalogue of forms or models to be directly transposed into a project" (Pauly, 1987, p.131).

Pauly explicitly refers to Corbusier's habit of not drawing until things committed to memory had 'simmered' for some months. During this time, Corbusier did other research of an historical and almost ethnographic nature. He committed information to memory in the form of notes and referential drawing. "It is rather a question of retaining ideas and solutions, of noticing analogies of forms attributable to analogies of function " (ibid). But, states Pauly, Corbusier formulated the idea in drawing, and it was only then that he invented.

In his further researches, Pauly uncovered more material related to the chapel that revealed what she describes as the implicit sources of Corbusier's inspiration and the workings of a deeper process. Pauly compares drawings in a notebook from a journey to North Africa in 1931 which bear a striking resemblance to the openings in the southern wall of the chapel. Pauly says of these kind of drawings that they are what "the architect retains through the drawing, over the course of his travels and throughout his experiences and his research" (ibid, p.133). Pauly emphasizes the multitude of assimilated information contained in these drawings, including "forms of know how, of ways to make" (ibid, p.134). A similar multitude of information is available in a notebook of one of our key informants, the sculptor Oswald Stimm, that I shall look at in a subsequent cycle (see Appendix E).

Pauly comes to the conclusion that everything garnered by the architect at all stages of his experience "becomes his own (and) will

sometimes re-emerge, without being really visible or conscious, at the moment in which he invents..."(ibid, p. 134). This 'garnering' is done primarily in drawing. Pauly insists that:

"It is fundamentally through the constant practice of drawing that Corbusier is able to retain all those references representing possible sources for the architectural project.."(ibid).

Corbusier himself explains the importance of 'drawing as memory' when he writes:

"One sees with one's eyes, and one draws in order to take inside, into one's own history, the things that one sees. Once things have been interiorized through the work of the pencil, they remain within for the rest of ones life; they are written there, inscribed. To draw... is first of all to see; it is being perhaps qualified to observe, perhaps qualified to discover...at this moment the phenomenon of invention may arise. One invents, and one even creates; one's whole being is brought into the action; this action is the central issue" (ibid).

The central issue is that the acquisition of the disposition to draw activates that which drawing has committed to memory. TD activates drawing done in the past in a circuit of exchanges, contraction and condensation which would seem to function in terms of Bergson's 'motor ally' which I shall discuss presently. Pauly sees Corbusier's drawing as 'a way of seeing better' which is a corollary to Ryle's 'seeing what needs to be seen'. This 'seeing better' is, according to Pauly, a gleaning of essentials, of singling out a problem or a tentative solution.

In this cycle, we have further explored three forms of drawing employed in the transitional process that were tentatively staked out in

'The Approach to a Definition': the drawing which is characterised by a 'thrownness' followed up by exploration; drawing which slowly unwinds in a state of suspended intention; and drawing which, in the field of architecture, is called 'referential', and that is closely related to the concept of drawing as a supplementary memory device. The essay by Pauly has helped to gain a foothold on the last of these and I shall now build upon this with the help of our informants, and the ideas of Bergson and Deleuze on memory.

Transferential drawing

In Deleuze's book on Bergson's theories that formed the basis of his analysis of the cinematic image of movement (1991), the author divides representation into two directions, "that of perception which puts us at once into matter and that of memory which puts us at once into mind" (ibid, p.26). The first is the immediate experience Benjamin speaks of as 'Erlebnis' and the mixture of the two is cumulative experience that is 'Erfahrung'. But in order to orient ourselves in reality, 'Erfahrung' must constantly interpenetrate 'erlebnis and 'Erlebnis', in the form of memory, is the foundation of 'erfahrung'. Thus between perception and memory there is a continuous interlacing of exchanges. Thus between perception and memory there is a convergence which I shall characterise as a 'Fadenkomplex'. TD can be characterised as an instrument for doing and undoing this 'Fadenkomplex'. In this section I shall narrow my focus to the exchanges in the 'Fadenkomplex' between what has, until now, been described as 'referential' drawing and that I shall from now on refer to as 'transferential' drawing. The reason for this is that I believe the main

function of this form of drawing is the conservation and preservation of an entity in terms of drawing for later use in which everything which does not interest us or is superfluous to our ability to recall the essentials of the entity in question is left out.

Transferential drawing has two main functions, equivalent to Bergson's two directions of memory. It has the function of 'recollection memory,' serving as a material recollection in a supplementary memory device, for example: a note or sketchbook that has an orientation toward a past experience. At the same time, transferential drawing is done with a view to fueling future ideas which at some point will take the form of drawings, and in this sense it is related to Bergson's 'contraction memory'.

We can all place ourselves, in recollection, at once in the past and at any place in the past. Bergson discusses this ability in terms of language, in that we place ourselves at once in the element of sense that language use imposes and the actualization of language follows from this. The transferential drawing is 'caught between two presents': the old present when the drawing was made and the actual present in relation to which the drawing is utilized. This offers a very fruitful continuation of our understanding of the the way the 'Faden' of transferential drawing is interlaced with transitional drawing. In Pauly's analysis of the drawings of Corbusier, the transferential drawing is not actualized or taken up into the interweave of the present of TD without adapting to the requirements of the present. Thus the transferential drawing of the past is made into something of the present; it intersects and is inserted or transferred into the 'Fadenkomplex' of present transitional drawing activity. It is important to emphasize here that I am drawing a parallel between what Bergson

states happens to memories when they are brought into the present and what I believe happens to the transferential drawing image; it is not that the changes which take place to the image are exclusively carried out in the drawing process, but that the transferential image is a form of material memory which can undergo, by whatever means, changes and exchanges similar to those which take place in remembered material to fit it to the requirements of the present. The form that memory then takes is what Bergson calls 'contracted memory'. This concept of contraction is very close to the functions of condensation and displacement already cited as features of the poetic and TD compositional process and which are also the essential features of dream work as described by Freud (1966). A comparison i shall explore in depth in a later cycle.

The other thing that must be emphasized is that it is, of course, not exclusively the transferential 'Faden' or strand which is interlaced into the TD process. Bergson (1988) uses the metaphor of a cone to represent this. Bergson's cone represents the totality of the past at different levels of contraction and expansion. Because it co-exists in a mutable form within our being, the past co-exists integrally with the present on various levels of 'contraction' and what Bergson calls 'détente' (relaxation) with the present. The transferential drawing done in a 'past present' enters the contraction process and relaxation process in relationship to the present because it corresponds in some way to our actual needs. By the very nature of the abductive reasoning involved in TD many possibilities are not realised. Some possibilities are rejected and others are suspended. We might see this process as subject to what Bergson describes as 'limitation' and 'resemblance': limitation because not every possible can

be realised, and resemblance to both a subjective (Imaginary order) and the restraints of the Real. However, transferential drawing serves TD, but TD is a creative act embracing more than transfer.

Adapting Deleuze's interpretation of Bergson: in the 'presencing' or initial 'invention' which under-pins TD, memory moves in two directions. It moves:

"...in its entirety to meet experience..with a view to action; the other of rotation upon itself, by which it turns toward the situation of the moment, presenting to it that side of itself which may prove to be the most useful...in coalescence with the present" (ibid, pp. 64-65).

Deleuze makes the point that when the recollection has the symbolic form of a material image, it not only coalesces with the present but enters into a circuit with the present and the past. In this process, Ricouer gives imagination the same central importance as Ryle. Without the imagination, there is no projecting, no motivation and no action. It is the imagination that does the trying out of different possible courses of action. This function is not impeded by Lacan's concept of 'fixity', but is based on a dynamic reciprocal penetration with the Symbolic and the Real. In this sense we can still see the Imaginary as related to what Eco calls the Dynamic Object and both the transferential and the transitional drawing as Immediate Objects. The Immediate Object then becomes what Bergson described as a 'motor ally' or 'motor scheme'. TD is a 'motor ally' of the recollection and contraction memory. Stimm emphasizes the importance of this and will often look back over old drawings for directions that have been presenced but not followed up. This can be a rich pond to fish in (see Fig.19). **'I forgot this drawing, then I discovered in this**

drawing a small part, a very important impulse to go on. I saw in one second the inner construction of this head.' Figure.20 shows the sculpture that emerged from this detail, which appeared in the course of drawing something else. Transferential drawing, as well as being a mode of presencing something for future use, can also be construed as one of the functions of absenting, in that it allows us to forget, as the drawing has now done the remembering for us. Spalt talked about the study travels which were an important part of his teaching, **'In our travels to Yemen, Norway, Spain, Moscow and so on, my students had to draw...Drawing is a process in which things which we would otherwise only look at superficially are condensed (verdichtet) and in this way better held.'** He talked about drawing Santa Sidone in Turin, **'Yes I drew it. Santa Sidone had been badly damaged by fire and I climbed through dust and rubble right up to the spire...The construction this architect had employed interested me.'** Kanfer always has a notebook with him and a pencil, **'I never go out without a pencil. Even when I am on holiday, or especially when I am on holiday, because I have more time and then quite often I sit down and drink a cup of coffee and instead of just sitting doing nothing I prefer having a piece of paper and to do some sort of drawing or just notes.'** He remembers going out one evening in the Hague where he drew an archway, **'...even now I still remember the details of this archway. The things which I took a photograph of two weeks ago, well it's not the same in my memory. You keep things in your memory in far better detail when you draw than if you just look at them or take a photograph...'.** Vander Weele's transferential process

often involves a targeted search for the image she needs and it is only when she has found it that a complex TD process might begin. **'I see something that appeals to me. What is it that appeals to me? Is it the colour, is it the way it sits together? ...is there some way of taking an image and putting it together...I wonder if something like that would work...'.** In her design for the OSCE brochure (Organisation for Security and Cooperation in Europe), through a process of drawing and found images, she combined concepts of bridging, unityand interwovenness. But her search is not only for images: **'I am also looking for methods to sell.'**

Thus it would seem that the 'motor scheme' of transferential drawing is designed to get to see what needs to be remembered for a later act of drawing and seeing. The essential point to bear in mind is that TD is a 'motor scheme' or 'motor ally' that evokes past transferential drawing (it may of course also evoke past TD as in the example from Stimm). This drawing, done in a 'past present', and which is a material trace of that 'past present', is evoked or 'transferred' and transformed in terms of a new present. Thus I have decided to call this form of drawing 'transferential' and to dispense with the term 'referential' which suggests a static form of reference.

It is from present TD that the appeal to which the supplementary memory device of transferential drawing comes. It is from the sensori-motor elements of present action, organised by habit, which produces an "organisation of recollection with acts" (Bergson, 1988, p.154)

Fischer (1999) states: "That as soon as I set a drawing instrument into movement with my hand a communication comes about (entsteht),

even if I am alone" and "what is visualised cannot be lost. On the contrary it is connected to a context. Contexts are opened which were hidden" (Fischer, 1999, p.43).

Transferential drawing involves an active participation in and appropriation of the world of artefacts or nature and people. Fig. 21 and Fig. 22 are examples of Stimm's transferential drawing. The first is a rapidly drawn Romanesque arch with two figures, that Stimm saw in a church in France, and reflect his long-standing interest in Romanesque structures. The second is a sculptural idea developed from a transferential drawing of an African woman glimpsed for an instant from a moving lorry.

The transferential drawing process is essentially a dialogue with Lacan's order of the Real and perhaps, just as importantly, a dialogue between everything the agent has perceived with everything that he is perceiving at the moment of drawing, producing a selective contraction of what was drawn then with what is being drawn now. By transferentially drawing, the practitioner saturates his or her experience with a form of drawing that involves similarity rather than identity or homology. A resemblance of a thing cannot be an instance of the thing and there would appear to be different levels of resemblance or verisimilitudes. Memory images are also not instances of the object perceived but perhaps have a relationship of schematic resemblance. As Benjamin (inMcCole,1993) states, these images are both edited and distorted. Thus no recapturing of a past event in memory, even if this memory is reinforced by a drawing, is a restoration but is rather, as Lyons states, a reconstruction.

In her essay on Le Corbusier, Pauly sees the transferential drawing as if this alone went to work, producing a synthesis which only needed to

be transcribed and perhaps marginally modified in further drawing, rather than seeing an integration and displacement of the transferential in the transitional drawing process. This is understandable as the relationship between transferential and transitional drawing is very complex and certainly subject to considerable overlap because, at the point where the transferential intersects the transitional, both become an experience in the present and both, in the interweave of the drawing in the present, become part of a new dimension of the 'history' of the individual agent, both become part of the sedimented structure of 'Erfahrung'. The difficulty lies in that the drawing which enters from the past and is changed in the present act of drawing becomes part of a composite which in its turn becomes a drawing done in the past. There is no definitive solution to this problem; however, Pauly, 1987, p.129) talks about drawing as 'the writing down of sight' which is retained and takes its place in the agent's own history; drawing done in order "to take inside what one sees" (ibid, p.133). Pauly insist that "it is fundamentally through the constant practice of drawing that le Corbusier is able to retain all those references representing possible sources for the architectural project" (Ibid, p.133). If this is compared to drawing which is done to get us '*to see what needs to be seen* ', then the fundamental distinction appears between drawing which is done as a means of strengthening retention and facilitating recollection and transfer, and drawing done as conjecture. Both, however, create 'open traces', both can be explorative, and very importantly, both are, in different ways, moves 'towards' a problem solution, one by accumulating composite material which may be deployed at a later date, and the other as the active deployment of this material. Both processes

are dialogic in different but complementary ways; the transferential drawing 'garners' material to be deployed; TD is a motion of involvement and detachment, of drawing which gives rise to forms of repetition, but also the potential for detachment, the permanent possibility of radical transformation or disjuncture.

This detachment can be seen as the interval of the gaze. Popper describes work on World 3 objects as 'involving a 'time delay', a kind of slowing down or an intervention between perception and motor action" (Popper and Eccles,1983, p.463). This substantiates our view of the TD as what Popper calls 'an object of thought' which has to be experienced as enduring in time, like a material thing. Because TD actually exists in time as an encoded material thing, it can be returned to again and again in the interval of the gaze and the detachment this involves. Detachment introduces instability and the possibility of renewal through transgression of the forms created. Such transgressions stand in opposition to the closure of TD and to a view of drawing as a kind of forcep which simply extracts the already formed in the mind.

Falzon (1998, p.39) in his reading of Foucault, describes a form of 'corporeal dialogue', that is dialogue as concrete, embodied and active with points of tension, involvement, detachment and instability. If this is applied to TD, then the difference of dialogic function makes the drawings of the transferential and transitional 'provisional' in quite different ways. One is provisional in that is open to the distortion of displacement and the other is a conscious fusing, separation and rotation around provisional states in order to produce displacement of concepts and achieve semantic innovation. The transferential drawing is a deliberative act of recording an

entity for future use or consideration, while TD proceeds by intervals and leaps, hiatuses and contractions and operates in the 'not yet decided', in the 'uncertain tense' of the 'forth-coming'.

Fourth Cycle of Emergent Disclosure

Introduction

In the preceding cycle, the relationship of TD to discursive practices was introduced. In this cycle, I shall explore this further and begin by asking what features of discourse relate toTD and how the concept of discourse helps us to understand the relationship between TD as a scheme of habitus and the social space or field in which it operates. Foucault (in Burgin, 1986, p.181) states that a "Discourse is a determinate and determining form of social practice". Each field is a discursive field and as Lyotard states "foregrounds the agency and efficacy of the legitimating narratives in the construction of practices within the social formation" (in Burgin, 1986, p.182). Each discursive field has discursive practices that approximate 'usage' or the habitus of personal expression and acquired dispositions and underlying conventions. Each field could be presented as a unity, part of which is its specific (in this case drawing) practices. My argument is that there is a commonality of transitional moves based on the operation of certain tropes in all these drawing practices which make possible the appearance of the specific end products or 'works' of different fields. Thus the unity sought is not in the specific form of the drawing, nor in its field related meaning, but in the

interplay of emergence, transition and transformation. Thus one of my hypotheses is the 'family relation', as Wittgenstein (1953) would put it, between a set of strategic possibilities applicable to an infinite number of performances across a wide range of discursive fields.

What is being looked at is not so much the graphic conventions of each field but what Foucault would describe as the 'dispersion' of strategies across fields (Foucault, 1972). Thus, while recognising the existence of different drawing conventions in each field, producing different ways of seeing, I believe there exists a strategic regularity within these practices which justifies the appellation 'transitional'. Thus, along the broad lines of Foucault's 'archeology', theTD would form a node in a network made up of primary or field relations (institutions, techniques, conventions, forms of social interaction and meaning), reflexive or secondary relations, equivalent to the concept of habitus in Bourdieu, and a third set of relations which might be called discursive and form the relation between the two. It is this third relationship which constitutes the discourse of a field as practice.

In this cycle I shall also further explore a view of TD as the objectification of ideas already formed in a place called the mind and the 'internalisation' of TD in the social context. The extent to which TD can be seen as a form of text, or paratext, and its relation to the 'work' will be furthered explored bearing in mind the all-important role of dispensibility as a disinhibiting factor, is a key disclosure of this section. In this cycle, the relationship between TD and the compositional practices of certain writers is developed. Finally I return to the theme of discourse and TD and relate this to the way Peirce conceives of the interpretant.

Transitional drawing as the enunciation of 'what is thinkable' within a field

The frontiers of TD are never clear-cut. This might be compared to the way Foucault talks about the book as "not simply the object that one holds in one's hand...(but an object which) indicates itself, constructs itself on the basis of a complex field of discourse" (Foucault, 1972, p.23). Like the book, the TD does not have a homogeneous function; it can result from the input of more than one person and can even be produced by more than one person; it is often an object which is destroyed or discarded rather than saved and stored; it is often made up of a number of symbolic modes; it is often seen by the agent as a mere note or graphic jotting; it is done, as I have described, on all manner of supports; some practitioners treat them as integral to the final object or work; others minimise or even disavowed their importance; it is produced by the gestures of both drawing and writing and, in some discursive practice, linked inextricably to the articulation of speech by two or more people; each TD is a unique object, yet its strategies of production are open to repetition, reactivation and modification as well as disruption; it can be linked to externally imposed specifications or purely subjective preferences or both; it can give rise to a variety of consequences or subsequent actions; and it can be connected to drawings that precede it and which it gives rise to. Some or all of these factors are operative in the discursive field in which the agent is situated and within this field there operates what Eagleton (1996) calls a 'master discourse' which organizes the field in terms of 'what is thinkable' and still belongs to the field.

What is 'thinkable' in a discursive field is often first enunciated in the TD and the form this drawing takes is fundamental to the identity of the field. Thus, the master discourse of the field both inducts novices into its practices and values and also sets an open border to what is permissible and still remain the field. The modality of TD practices forms part of the identify of the the agent as belonging to the discursive field. TD forms a central part of "the visceral attachment of a socialized body to the social body that has made it and with which it is bound up" (Bourdieu, 2000, p.145). The form of TD used by a particular field represents one of the boundaries of the field. As Wittgenstein states (in Burgin, 1986, p.160) "the limits of my language are the limits of my world." But here we must tread cautiously. The boundaries of a field in terms of TD determine the way the agent deploys the drawing conventions of the field in transitional moves towards a solution or goal state. But another characteristic of TD is forms of co-existence, the all-important co-existence of symbolic modes. This can take the form of borrowings from other fields. The reason that this is done lies not so much in the constraints of the field, but in the even subtler constraints of the habitus. One of the most difficult things for the agent to do is recognize his or her own strategies and methods and, by working against them or by combining them with other modes he/she can renew them and by so doing precipitate them into semantic movement. Kanfer stated that he re-used ideas which had been successful in the past **'not purposely but they are there, they keep coming up. Sometimes you have to force them away...I sort of pull it away and force myself to do something else. Quite often I don't like it and then I come back to the original influence, but I did try to avoid it...For example, if you**

look at Otto Wagner there is always the same idea there.' This illustrates Bourdieu's idea that "habitus helps to determine what transforms it" (Bourdieu, 2000, p.149) and at the same time provides a new insight into the idea that was touched upon in the first cycle: that creative work goes on internally and when the mind has done its job then the 'finished' idea is simply transferred to paper.

A finished idea transferred to paper

Spalt states on the one hand that **'the idea of the the architect is not only in his head but is integrated into the whole person, just as I believe that an architect who is only a head cannot be a good architect. Architecture is something substantial, something to which is connected to the body.'** He said Brunelleschi, before he constructed the Dome in Florence, must have carried the construction in his body. This is a clear illustration of Bourdieu's concept of habitus as bodily disposition. At the same time he said that, **'The great architects have, to a certain extent, always a finished picture in their heads'** and **'Naturally to start with I pictured the house in my mind** (vorgestellt), **that is spatially conceived** (räumlich gedacht) **and then I made sketches of how it might look. It can change a bit then'** and **'To start with I must know what it is I want to do and then I make small sketches and the process develops.'** Spalt quoted the architect Josef Frank who, he claimed, said, **'that an architect who does not have a house complete in his mind should not be an architect. This is an important point, that I see everything before I begin to draw. But of course there are architects who arrive at their things by means of**

drawing.' Kanfer talked about his teacher Schuster who **'told us in actual fact what an architect should do is sit back in an armchair, close his eyes, develop the building, design the building, walk through the building, then all he has to do is to put it down on paper.'** But he said that quite often he **'had to have something on paper and then I would think about it'**, and **'When you put it down on paper you suddenly find it isn't quite the same as you had in your mental image'** and **'Most architects start drawing like this, or the floor plan, but in their mind they have got the building, they can see a certain building taking shape.'** Kanfer said **'sometimes you have a basic idea which is more or less just waiting to be used'**, (but if you do not) **'that is when the hard work starts. I have often experienced that I can definitely give a date when the working drawings are going to be finished, how long they are going to take, but I can't really give a date for the initial design. It could take an hour** (and at one point in our conversations he gave me an example of an idea he worked out in a hotel lobby in a very short period of time), **it could take a month'.** Thus TD as a disposition "does not lead in a determinate way to a determinate action; they are revealed and fulfiled only in appropriate circumstances and in the relationship with the situation" (Bourdieu, 2000, p.149)

How are we to understand that some practitioners claim to have a complete or almost complete 'Vorstellung' or mental picture of the finished building and others need to work this out in drawings? Certainly any idea that this has something to do with the quality of the agent's works can be dismissed. Picasso, Du Champ, Le Corbusier, Libeskind and Gehry would all seem to use drawing as a way of working out their ideas. I

suspect that two factors are at work here. One is a culturally determined pattern of thinking in which idea development purely in terms of mental activity is rated higher, intellectually, than activity which relies on external means: a prejudice which has its origins in Platonic philosophy. I sometimes refer to this as the 'Mozart syndrome' because Mozart was thought to have composed all his music in his head and then merely transferred it to paper, though both Popper (1994) and Hildersheimer (1982) state this has been proven to be false. Secondly, the architect that has developed a fairly consistent 'style' may very well claim to have a mental picture of a building because, as Spalt said, they **'know what they want to do'**. To some extent they apply a flexible but consistent spatial representation to a new situation. More importantly, I would suggest that the mental representation is dependent in the first instance on drawn representations. This seems particularly true of the architect. The architect learns to visualise interior spaces and externalities because of internalization of the sign system of spatial representations peculiar to architecture. To think of it any other way is, in Saussurian terms, to posit a signified whose nature is independent of the nature of the particular iconic signs used in architecture. The sign language is acquired first through drawing practices, and it is this which enables the architect to 'see' the finished building, but this 'seeing' is not outside the context of signs and inside the mind, but is rather a function of the system of iconic signs acquired and used by the architect. The meaning of what the architect 'sees' as a mental image has come into existence because of the internalization and use of a particular sign system which is a disposition acquired in the social context of the discursive practice.

Rycroft (1991) states that creating must be a function of a form of remembering. I have suggested, using illustrative material from our informants in conjunction with the theories of Bergson and Deleuze, how memory is related to TD and, in particular, how the action of drawing helps both to fix and stimulate the reconstructive aspect of remembering. If the transitional experience 'starts off what remains important for us' or the 'fixity' of the imaginary, in Lacanian terms, then the process of subjective preferences is connected to remembering, however diffusely, and reconstructing the remembrance of our first transitional phenomena. As Bartlett (1932), whose work on remembering has not been superseded, points out, remembering is an imaginative not a reproductive activity.

Rycroft describes Freud's theory of Cathexis, or the process by which "we endow and attribute meanings to the objects we perceive and construct images of..." (Rycroft, 1991, p.121). This, according to Rycroft, is a to and fro process between imagery derived from the self and imagery derived from the outside world:

"...the imagery derived from the outside world is available for making metaphorical, symbolic statements about ourselves, about our physical and mental state of being. In other words, there is a two-way traffic between our own body and its activities on the one hand, and objects in the outside world on the other, so that each provides metaphors to describe the other" (Rycroft, 1991, p.122).

In the case of TD, the two-way traffic also extends to the other and to other sign modes. Thus, multi-mode TD is a strategy determined for each agent through the process of its initial acquisition as external

instrumented operation in a social context and, subsequently, through internal reconstructed operation, appropriated as personal agency.

From external instrumented operation to an internal reconstructed operation

Vygotsky states that the sign is "always primarily a means of social relation, a means of influencing others, and only then influencing oneself " (Vygotsky, 1991, p.36). Vygotsky constructed, on the basis of extensive experimentation and analysis, a law related to human development which states that "the relations between higher mental functions were at one time real relations among people" (ibid, p.37). He goes on to state that the higher functions of reflection and argumentation addressed to the audience of the self manifest themselves first in a collective social context. Popper (1996) also places the argumentative function on the highest rung of the higher cognitive functions.

TD began in the social context of the workshop where it was used together with articulated speech as a means of argumentation and explanation. It retains this function. Spalt talked about the way he worked with the architects Holzbauer and Kurrent and described the discussions they had as being lengthy, during the course of which **'many drawings were done so that the papers piled up'**and **'one of us would not form a connection or relationship** (Beziehung) **to an idea that one of the others had but had a better overview because of being more distanced. Very often one runs after an idea and is blinded by emotional involvement. It happened that in the end one had to reject it all and start from the beginning because it did not work or could**

not be constructed' and **'It was like this: talking and drawing, and then again talk and drawing. Of course we disagreed. One dominated but that changed all the time'** and **'one comes with an idea and the others pull this idea apart** (Zerpflücken). **Then from out of this the next step develops, then one intervenes or the one that had the idea in the first place pushes it through and in spite of criticism goes on working on it'** and **'we are all different and so each of us can make his own individual contribution'.** After Holzbauer went to America, Spalt worked with Kurrent for ten years, and stated that this was easier than working in a group of three: a point I shall return to in the thesis in the final cycle of disclosure. Kanfer emphasised the role of transparent overlays in this drawing and talking process: **'Once something was on paper, quite often one of us took a piece of paper and said I don't agree with you, then you would put one of these layers over it and then the other would do the same, but everybody had something on paper first of all or at least one had.'** and **'...we would all sit round it and everybody would start putting in their ideas. Sometimes they would say I'm going off to my drawing board to do this in quiet for myself and come back. ...I can think of a few designs where I worked through it by myself and then there are quite a few where some ideas were brought in by draftsmen in the office so that in the end there wasn't much left of my idea'.** It is also important to notice the close link between Leonardo's advice on overdrawing and the use of transparent layers, which Kanfer mentions, and which is used in both the dialogic and autonomous contexts

In terms of the dialogue with the client, Spalt stated that this was important for him because **'I have to solve certain situations for him** (the client) **which then become my situation. After all I have to do it.'** Kanfer said that, with some notable exceptions information, has to be **'dragged out'** of clients, **'That is a major part of the first discussion. We can't really start designing until we know what he wants'.** Both architects and the graphic designer used drawing in their discussions with the client, but perhaps less so than in collaborative work with other practitioners. Vander Weele states **'if it's a small job, I can often sit down for an hour and a half and actually design a piece and they sign off on it...It depends on how visual the person is and how much ownership they want to have'** and later, talking about a design process for the OSCE, she said **'One of the people at the meeting said 'I want something that looks modern and high tech'. I didn't like this, but I needed to respond to him. He needed to see something like that...people need to feel they are heard.'**

In the introduction to Rhees' work on Wittgenstein's Philosophy of Discourse (1998), Phillips sums up the essential nature of this dialogic process when he states that the point of dialogue is:

"...an offering of views, and a criticising and asking questions and raising further objections and wondering whether...So that it is not simply what it would have been if I were asking you to answer a question for me. We do not just want a conclusion (or solution). We want to understand it too..You want to sort things out" (in Rhees, 1998, p.27-28).

It would seem that a key idea in drawing and talking with other practitioners and with clients, and in working independently is, as Noble and Davidson (1996, p.128) state:

"Being able to keep a representation going after the passing of its cause (which) is a logically necessary background element for the achievement of reflection. Reflection itself is what gives meaning to the entities represented...what is needed to give meaning to entities or to recognise them is the ability to reflect, hence refer to something in one's experience" (Noble and Davidson, 1996, p.129). This involves taking up a point of view and this point of view is "affected by the products of linguistic and related representational behaviour" (ibid, p.134). Their argument is that in the point of view of perception there is an interruption of the on-going activity, in our case of TD, so as to reflect and scrutinize it, to look at it more closely. In this 'arrest', conceptual activity is activated. The activity of TD has the 'staggered' quality engendered by the switch from one state of attentiveness and reflection to another, from action to orientation. "When that switch is made, narrative occurs, if only self addressed, to do with what is going on" (ibid, p.135). Kanfer states, **'In the beginning you just work around. You just work around. You start with a very rough basic idea and then you keep sort of refining it.'**

It is useful here to look very briefly at the way Dewey links reflection and experience. As Wheeler states:

"Experience means what humans do and how they do it, and as such recognizes no absolute dualism between subject and object, act and material, thing and thought - since each of the pairs refers to a product discriminated by reflecting on life experience" (Wheeler, 1993, p.117).

It is reflection which breaks things up into inner and outer structure. Dewey, however, differentiates between 'felt experiences' in which both reflection and thought are present (but at a minimum) and experience produced by imaginative reflection. These two aspects of experience interact, producing "concreteness and an emphasis on process as well as products" (ibid, p.118). Stimm states, **'you cannot hold the emotional and the irrational completely apart. They have to work together'.** Kanfer provides a good illustration of this interaction between experience, feeling and imaginative reflection when he states, **'You start with the rough sketches and you may even get to a further stage and suddenly you have got a feeling there is - even if it's only the floor plan - there is something that doesn't quite work, the functions are not quite right ... It's usually the floor plan which doesn't work properly then there is no point in trying to force a solution into it. The other thing to do is to say, there must be something wrong, probably the initial start was wrong, let's start again from the beginning.'**

Noble and Davidson do not make the narrative which issues from reflection solely linguistic, but argue that it can also be based on other discursive activity. However, they point out that in attributing meaning to a non-linguistic entity, we are addressing its socially constructed significance. Vygotsky's law pinpoints the importance of inner argumentation or reflection as having their origins in modes of external behaviour. Very importantly, it explains the polyphony of 'voices' in the TD, its multi-mode nature from a different angle from the one I have earlier derived from Kress. The initial use of TD was accompanied by the

spoken words of two or more people; both drawing and talking were used as a means of influencing others. The drawing activity in this context was not that silent activity of a subject leaning over a paper on a drawing board (although we must stress the importance of this activity). In the dialogic activity, words were (and still are) written onto the drawing. Here the written word is very much a special drawing of articulated speech. In the transfer and internalization of this sign activity, the scripto-visual polyphony of TD becomes established, "...from an external-instrumented operation the process becomes an inner-reconstructed operation" (Vygotsky, 1994, p.152). This I suggest is the essence of Bourdieu's 'habitus' as something internalised or inscribed in the body by past experiences which allows the agent "without any explicit definition of ends or rational calculation of means, to generate appropriate and endlessly renewed strategies" (Bourdieu, 2000, p.138). However, this process from the external to the internal is not one way. As Vygotsky points out, internalization produces a further change in the external activity: "the passage within from without transforms the process itself, changes its structure and functions" (ibid). My hypothesis is that TD is acquired like language genres in the dialogic situation and internalized and 'inscribed' in the body to become personal agency.

TD practices are also acquired in the social context in art but they do not have to be 'intelligible' to the same extent as TD used in a collaborative context. This does not imply, however, that architects do not produce drawings which would be difficult for fellow practitioners to 'read'. One only need look at the drawings of Gehry to realise this (see Fig. 23). But, at some point, the drawing has to make sense within the 'interpretive

community' in order for discussion to take place and for things to get done, for closure to be effected and for final products or works to be made.

Henderson (1991) studied social activities in engineering and came to the conclusion that sketching and drafting:

"...Actively construct not only the new technologies that emerge from design but also the collective knowledge and interactions of the design engineers" (Henderson, 1991, p.456).

She emphasises that sketches 'are probably the most important carriers of visual knowledge' because they serve both in the collaborative and autonomous context as a'thinking tool'. Like some other researchers and writers in this field (Ferguson, 1992 and Fish and Scrivener, 1990) she continues to use a concept of 'picturing in the mind' and describes sketching '..as...giving form to concepts *pictured...'* in the mind of the designer (italics are mine) and talks of 'visualisations in someones mind'. At the same time she cites one of her informants who states:

"As soon as you start drawing it, you have ideas and changes. You are erasing it and improving it" and later "As soon as you have something, you can take it to someone else and say ,'Look this is what I have, how can I improve it' ? " (ibid, p.460).

Henderson's paper is of great interest because she has stidied drawing activities in the collaborative work situation. She states:

" The informal visual communication of sketching is essential to getting ideas across; Sharon (one of her informants) says you never 'get two designers who just sit down and just talk', ... 'everyone draws sketches to each other' "(ibid, p.461). Henderson's paper elucidates the

'crucial role' of sketching in the communicative activity of situated practices. However, she places no emphasis on the multi-mode nature of such sketches but seems to view them as belonging exclusively to visual forms of thinking and overlooks, what I consider to be the pivotal importance of dispensability, although one of her informants states:

"...I'm able to just go off with the pencil and go and just make a little hand sketch off to one side just to make it clearer to the guys doing it at the time but *it wouldn't be as a permanent anything* " (italics are mine) (ibid). This reiterates the importance of TD as taking place in a disinhibitive 'value free zone' where it is *something which is not permanently anything.* I shall return to some more of Henderson's findings later in the thesis.

The Work and the *Textire* of Transitional Drawing

Roland Barthes' essay 'From work to text' (Barthes, 1994) helps to distinguish between the completed work or finished product and theTD process. Barthes' view of the Text conforms, in all essential details, to my description of TD although I shall use the term *textire*, which is the Latin for text and means interwovenness of threads or strands, and I shall use this term to exemplify TD as open to an interweave of various signifying modes.

With respect to the informants and other primary and secondary sources used in this thesis, I shall interpret 'work' as the finished product or work: that is, building, printed image with and without text, and finished piece of sculpture. TD can lead either to a plan from which the final product is made or it enters into an immediate relationship with workshop

practice. These are not hard and fast categories but admit of a great deal of overlap: where the plan is modified as the result of more TD; where TD is carried out on-site to solve oversights or shortcomings in the plan; where TD is continually modified as a result of working directly in the material of the end product and so on. Barthes distinguishes between the work and the text on the basis of the work having a sense of 'stable substance', while seeing the text as a 'methodological field'.

Barthes invokes Lacan's distinction in this context between 'reality' and the 'Real', (Barthes' use) where the work forms part of 'reality' as an object, that can be seen in the form of a completed object or artefact. The work is a 'reality' that can be held in the hand, the text is the 'Real' which is held in the movement of discourse and in symbol systems. An objection is that, if the TD as text could not be 'held in the hand', then this research could not be carried out. The distinguishing feature, however, between text and work is that the text is process and not product. The text, as Barthes states, "is experienced only in the activity of production" (Barthes, 1994, p.157). The text does not stop in the final product but "its constitutive movement is that of cutting across (in particular, it can cut across the work, several works)" (ibid, p.157). We have seen this in the operation of transferential drawing and I have looked at examples where transitional processes are situated on the border and beyond of the 'doxa' of the field. The TD in this sense of the text is often a para-dox.

Transitional drawing as 'bridge'

Vander Weele characterised TD as **'a bridge', ...it's a bridge. It's a bridge from my mind to the paper, it's a bridge from my mind to**

your mind, its a complement to my verbal...because ultimately, it is going to be a piece that you see. And because of that, I have to show you something... She also said it was a bridge to the people she works with. **'This says a lot to a printer,I haven't got to say a word to the printer.'** Stimm also talks about drawing as a bridge, **'The bridge is a connecting element** (Verbindungselement). **Also the bridge from the idea over the drawing and from the drawing to the work, this is also a bridge'.** Such drawings are of great importance to Stimm, Mosswitzer and Spalt. Stimm states, **'I would not sell them, because they are of great importance to me as an intermediate stage or step (Zwischenstufe), before I come to the essence or more correctly because they represent the essence'.** Spalt keeps all his drawings because, **'otherwise I could not see the process of development and that is necessary.'** For Mosswitzer, the drawings have **'Arbeitswert'** (work value). **'I do not sell my drawings...Yes for me it is work value, a thought resource (Gedankengut) and I often need them...'** Mosswitzer did not like the connotation of 'value' that the terms he used gave them. **'I do not sell them because I think of them as being completely value free...I do not want to know that they now have a value converted into money...They are thoughts, those I can throw away and those I can keep, and they should remain free of value.'**

Barthes draws out another very subtle difference between the work and the text when he describes the work as being determined by the world, where the originality of the author of the work is culturally enshrined, and it is often supported by the author's declared intentions. The text or the TD often opens the bag and lets out the cat of the author's

influences and other transferential sources of inspiration. Mosswitzer, in answer to why he needed the drawings states: **'To remember thought processes** (Gedankenerinnerung)**, sometimes something comes up and you need a couple of these in order to develop things further... Then I go and get particular drawings, ones I know I need now and then usually something is produced from them'.** (see Fig. 24, Fig. 25 and Fig. 26). But at the same time Mosswitzer's drawings are produced between different phases of a work and within them **'Is the next work or the one after that and so on.'**

The transitional practices of Giacometti were very much dependent on the little known transferential drawings which he did in the Louvre (Koepplin, 1995). Shortly before his death Giacometti wrote:

"Ever since I saw reproductions of works of art - this goes back to my early childhood and is among my earliest memories - I have felt the immediate need to copy the works which attracted me most. This need to copy has never left me...The whole art of the past, from all epochs and cultures rises up before me simultaneously as if space replaced time...And in some way I am still twelve years old, perhaps I am essentially that twelve year old. But I don't know, I really don't... but for years now I have known that copying is the best way to clarify for myself what it is that I see" (Koepplin, 1995, p.3). Giacometti's drawings in the Louvre are intimately linked to his painting and sculptures.

Francis Bacon, who during his lifetime denied ever producing drawings before working on his paintings, is quoted by Edward Lucie Smith (1999) as saying that "any sketches that I did before could only give a kind of skeleton, possibly of the way the thing might happen". However,

recently drawings of Francis Bacon have come to light (see Fig.27 and Fig.28). These drawings are a variation of the overdrawing process where the overdrawing is done on photographic images of mouth diseases which was one of Bacon's main sources of pictorial inspiration. Unlike "the ankle deep strew of books, photos,old shoes, paint tubes, rags etc., that covered the studio floor..." Peppiatt, 1996, p.230) Bacon concealed his drawing process. This deliberate concealment, and Giacometti's little known drawings done in the Louvre, reveal in their different ways, the conflict between the artist's transitional or textual practices and the work's consumption in relation to a narrow concept of originality which places a premium upon, and fetishizes, the unique singularity of creative processes.

Very importantly, Barthes links the text closely with the experience and utilization of the sign. The work, says Barthes, is a signified. It is either an evident signified or one requiring interpretation. Either way, the work is one of a culture's artefacts seen as a 'general sign'. The text, on the other hand, is the field of the signifier, what Foucault has described as the 'field of presence' and is characterized by 'deferred action'. Here I am reminded of Gombrich's remarks on Leonardo da Vinci's advice on compositional drawing, where he writes that the "sketch is no longer a preparation for a particular piece of work, but is part of a process which is constantly going on in the artist's mind; instead of fixing the flow of imagination, it keeps it in flux" (Gombrich, 1996, p. 217). Barthes describes the text as 'a passage' and 'a weave of signifiers'. Barthes makes a very interesting distinction between the 'development' of the work and the 'network' of the text. One of the major tasks and problems of

this research is to find a way to represent the interwoven nature of TD or, as Barthes (in Wiseman, 1989, p.86) states, "emphasizing...the generative idea that the text is made, is worked out in a perpetual weaving". This is the insight central to the concept borrowed from Benjamin of the TD as a 'Penelopewerk'. Barthes emphasizes the free play of imagination in the text's field of signifiers. In Barthes' terms, TD would be set going and kept going by 'a combinatory systematic' which really means the operation of tropes. The 'presencing' I have spoken of is the setting going of the TD, followed by tropological strategies for keeping it going.

Paratext and the TD *textire*

The historical reflection has uncovered the historical link between TD and poetic composition, but in what ways is TD a paratext in the same way as a draft in poetic and literary composition? The paratext of poetic composition is sometimes as much a multi-mode object as a TD, as we can see from a comparison of paratexts of the poetic composition of T.S. Eliot (1971) and A. Pushkin (Zavlovskaya, 1987) and that of multi-mode TD. This will further clarify the similarities and differences between these forms of paratext and what I have termed the *textire* (multi mode-weave) of the TD and the final 'work'.

First of all, I shall distinguish between the *textire* of TD and the paratext of poetic composition by saying that in the TD there is a predominant use of the mode of the iconic and/or the indexical sign, and an accompanying use of the symbolic or linguistic sign. In poetic composition, the dominant mode is the symbolic and the indexical sign,

and in the case of Pushkin, there is also a pervasive use of the iconic sign comparable to Heyduk's use of the symbolic sign in his TD's. In both poetic composition and TD, the indexical sign plays a very important role.

In a manuscript page from Eliot's notes for 'The Wasteland' (see, Fig. 29), the indexical signs of his drafting and editing process have been transformed into a variety of uniform, mechanically produced and semantically equivalent signs. This is possible in Eliot's drafting process because he employed the mechanically produced symbolic sign of type, together with handwriting and indexical signs. I can only surmise as to what Eliot would have done had he had a word processor, and whether this would have made any significant difference to his method of poetic composition. What cannot be dismissed is that the actual action of writing and inscribing the indexical sign may have had an influence upon his thought (I believe he interacted with Ezra Pound over some of his drafts, as well). I say this because of the 'over and against ' relationship of poetic composition, that is similar to that of the TD. The typewritten composition with handwritten corrections and changes and inscribed indexical signs is also a subjectile. The role of indexical signs in Eliot's poetic composition is a form of drawing. The question is, what does this form of drawing represent? In the discussion of Tinguely's drawings, some of this ground was covered and the indexical sign was seen to symbolize the movement of thought, or rather, the movements of the argumentative and reflective function. One very important role of the indexical sign is also that, unless it takes the form of an eradication of words, a blotting out, then it allows forms of co-existence that would seem to be very important to this process. It becomes 'a field of presence' in which rejected or abandoned

directions co-exist alongside those which have been taken up or elaborated. This also applies to the TD. This is a very important part of the process I have described as transferential and which can apply to the agent's previous transitional drawing. Stimm often remarked upon this as he and I looked through his drawings and he discovered things which set in motion a 'zurückgreifen' or 'wider aufgreifen', a 'reaching back' or 'backwards grasping' movement.

Further evidence as to the strategic importance of the modes employed in the writing process, provided by Mayröcker (in Kastberger, 1998), deals with various methods of literary composition. Mayröcker says that in the first drafts of a text she uses lower case type (Kleinschrift) to imprint upon her consciousness that what she is writing has only the status of a 'Versuch', a 'attempt' or 'experiment' where everything is open to change (see Fig. 30). Orthofer (1998) provides examples of literary paratexts by Werner Schwab (See Fig. 31) and distinguishes between invention and the found object of bricolage. Orthofer, writing about the paratexts of Schwab, describes them as 'findings' rather than 'inventions' (Findungen, nicht Er-findungen) with the emphasis on the bricolage nature of these paratexts. Pichl (1998), writing on the paratexts of Ingeborg Bachmann, describes the advanced stages of Bachmann's compositional process, in which she would produce a typewritten basis with immediate variations, then, first, handwritten corrections in dark blue ink and, second, corrections in black ink.

The final printed texts of poets are the product of all the modes employed but appear in their final form in one mode, the mode of the symbolic linguistic sign and, whether they are composed by hand or on

the typewriter, the relation of the symbolic signs in the final draft and the published text is one of equivalence. Ernst Jandl states, 'That working upon form is simultaneously experience. Form is experience.' (Das Arbeiten an Form ist gleichzeitig eine Erfahrung. Form ist Erfahrung) (in Fetz, 1998, p.92). The reason for this is that, if we adopt a pragmatist approach, then experience:

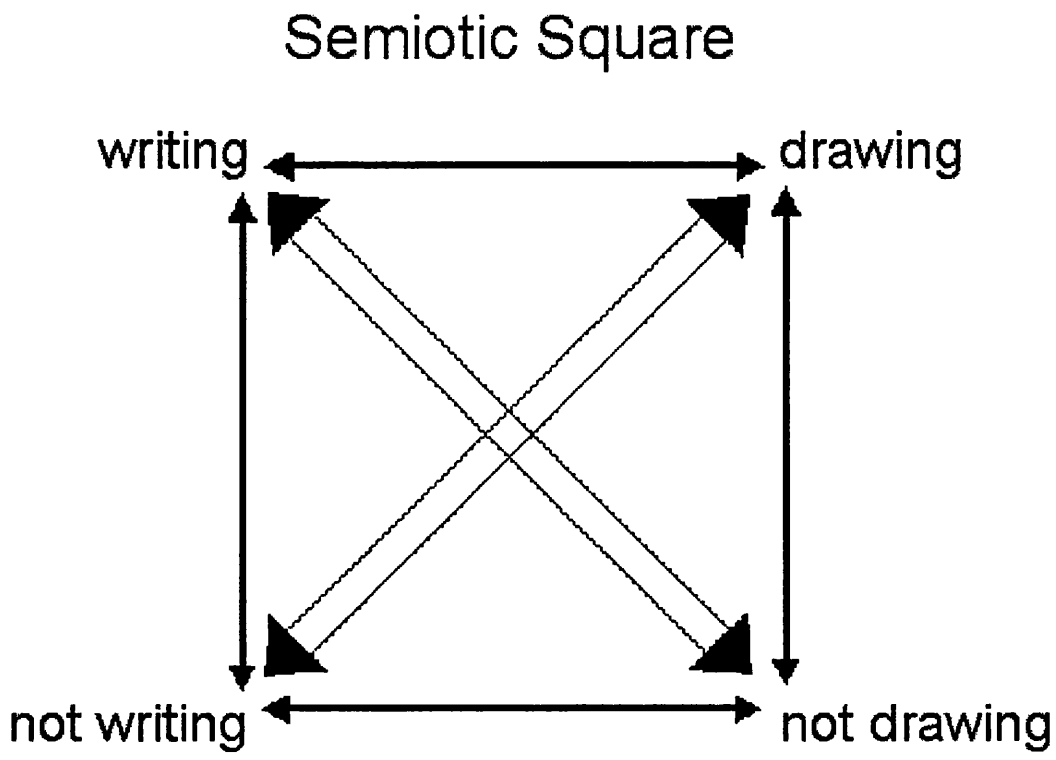
"Is a continuous merging, there are no holes, mechanical junctions, and dead centres when we have an experience. There are pauses, places of rest, but they punctuate and define the quality of movement. They sum up what has been undergone and prevent its dissipation..." (Dewey, 1980, p.36).

In this account, experience is made up of modes of interacting, thought and relationship where experience participates in the evolution of the form. The paratext or the TD is not external to experience but, like form, is its subject matter. According to Wheeler, both Dewey and James state that experience is only virtual until it "occurs in discourse, until it is identified and then categorized by mind" (ibid, p.94). Like mind, consciousness and self, experience is a metaphor used heuristically to name the field or context of activity and/or the activity itself, in constant flux, change, growth and yet also continuity. For Jandl, experience involves the 'becoming' of form, a multi-mode 'processive' activity.

Drawing not- drawing, writing not-writing

To explore the multi-modality of TD and of the paratext in writing, the switch from the iconic sign to the symbolic or linguistic sign,

I have used the semiotic square of the structuralists (Krauss, 1993) as shown in Fig. 32.



In its upper left-hand corner is written 'drawing' and in its upper right hand corner 'writing' and in the two other corners 'not-drawing' and 'not-writing'. The top axis is the opposition of the modes of drawing and writing. The lower axis, the not- drawing and not-writing, is not to be seen as a cancellation of writing and drawing but as a sublation of both into a higher unity. This higher unity is what scrutiny and reflection upon the interwovenness or the juxtaposition of one to the other produces. The circumference of the square holds all its terms in mutual opposition; drawing versus writing; writing versus drawing; drawing versus not-drawing; writing versus not-writing; not-writing versus not-drawing; not-drawing versus drawing. The diagonal axes produce mirror restatements

with writing being the same as not-drawing. This is termed the deixic relationship in which the not-drawing has its mirror condition as writing. Thus the alternation of the modes, and the preeminently composite nature of transitional processes, is represented. The square reveals transitional process as a grid of interlocking modes in which the delay of the reflective gaze searches for the higher order. The overlaying, or penetration, of one mode in relation to another produces a third dimension of transitional process which is reflected in the 'not-writing - not-drawing' axes. This third dimension is where the iconic sign is linked to the symbolic sign in a higher order. This higher order can also take the form of a transgression of the kind employed by Schwab or by the architect, Libeskind (1991). In this representation, each mode has its own cathexis, its own energy and 'pull.' Within this square, there is no ultimate signified but a towardsness or 'forth-coming' powered by the switching of modes. It will be appreciated that the dynamic of this square could also be applied to the subject-object relations inherent in TD where a 'not-subject,' not-object' axis would constitute the higher order of the subjectile.

The multi-mode *textire* of the TD is different in some significant ways from that of the multi-mode object of poetic paratext. As objects and fields of presence, both reflect indeterminacy and the coexistence of states and modes. Both can begin to take shape by means of a relationship between scripto- visual modes, even if the visual mode is exclusively indexical. The transitional process involves trying out orientations that use different symbolic modes. The most pervasive impression of the 'field of presence' of the poetic paratext or the TD is one of plasticity. The plasticity resides in the permeability of modes. It is very

much in evidence in the paratexts of Pushkin, where drawing, writing, and indexical signs mutually penetrate one another, producing an interwoven subjectile of great complexity (see Fig. 33 and Fig.34).

This use of drawing in poetic composition is by no means a rare occurrence. There is a very long and impressive list of writers who also produced artistic work, but this work must be distinguished from the transitional mode used in the paratext. It would appear that not only Pushkin but also Dostoevsky and, to a lesser extent, Tolstoy, Turgenev and Gogol used drawing in this way. It would be an important undertaking to distinguish this use of drawing from the illustrative and other uses employed by writers as eminent as Victor Hugo, Goethe, Poe, Dickens, Strindberg, Frisch and Grass.

The different 'voices' of Transitional Drawing

I see both the paratext of poetic and literary composition and the textire of TD as 'fields of polyphonic modality' or mediality, in the sense in which Bakhtin uses the term 'polyphonic' in his analysis of the novels of Dostoevsky (Bakhtin, 1973, p.17). Bakhtin uses polyphony to describe the different 'voices' in Dostoevsky's novels that are independent, yet combine in the unity of a higher order.

The metaphor of polyphony helps us to see Pushkin's and TD processes in terms of the interplay of different modes, where each mode is a 'voice' with a function in the construction of the paratext or TD textire. To keep the dialogic, argumentative function going in TD different modes different 'voices' are resorted to. "These are different voices singing in different ways on the same theme. This is multi-voicedness which reveals the variety of life and the complexity of human experience" (Bakhtin, 1973, p.36). The multi-voicedness of the TD arises from the use of different modes, largely the scripto-visual modes.

I have mentioned earlier the concept of the agent addressing the audience of the self, and the role that Popper gives to the argumentative function. Bakhtin helps us to understand this as an "active dialogical approach to one's self" (ibid, p.98), the 'driving shaft' which connects the self to the symbolic modes at its disposal. Bakhtin further argues that "dialogic relationships are impossible without concrete semantic embodiment" (ibid, p.152). They must enter the material plane, they must become symbols and they must have an agent, an author. Bakhtin talks about dialogical relationships to our own symbol production, to part of it or to the whole, but only if "we in some way separate ourselves from them, if

we speak with an inner reservation, if we maintain distance from them, as if limiting of dividing our authorship in two" (ibid, p.153). This is reminiscent of something Sylvester (1980) said in his interviews with Francis Bacon about "... being able to remain sufficiently apart to see where one has to stop" (Sylvester, 1980, p.194). This being able to remain apart, is I believe, one of the cornerstones of the usefulness of TD. It is a use that is connected to the random or dispensable nature of the subjectile and the multi-mode nature of its field of presence. The agent recognizes TD as a sign function that is essentially separated from the self, from the personality, but that can take up different positions within subjectivity. I shall return to this later in this cycle with new insights gained from a closer reading of Winnicott (1991) and both Ogden (1992, 1994) and Hughes (1989) on Winnicott.

Taking a term from Bakhtin out of its context, I shall conceive of the TD addressed to the audience of the self as a form of 'hidden polemic'. The polemic is directed towards the material object of the drawing and its semantic embodiments and transitions. The agent produces a symbol, and at the same time, addresses it and reacts to it, answers it, is drawn into a circuit of acitivity and reflection. As Bakhtin states, although exclusively of words, "they are capable of agitating and touching one, almost like the personal appeal of a living person" (Bakhtin, 1973, p.199).

'To think is to thingify'

This quotation is from Coleridge (in Wheeler, 1993, p.159) and helps to probe more deeply the interplay between subject and object.

Stimm talks about the correspondence between the mark the drawing instrument produces and the material world, while looking at the drawing of the Janus head (see Fig.19): **'...it is ink, Chinese ink, the roughness in the sharpness corresponds most closely (entspricht) to wood. The wood not as a compact mass but as an industrially manufactured slat, an orange box, a box. In some sense this for me is more interesting than a compact piece of wood...Ink exists in some relation to the planks of wood...I hardly ever draw with a pencil. Pencil creates too much shadow, too much weakness. If I would amplify the line of a pencil on the borders it would be very...not exact, fuzzy'** and **'The sharpness of the line. It is nearly an incision.'** Figure. 35 is another example of Stimm's use of chinese ink to suggest the materiality of wood.

The only time I have come across the word 'transitional' in relation to drawing was in the work of Matta Clark, whose 'drawing' consisted of deep incisions into blocks of paper (Breitweiser, 1997). When asked what instrument he would use to draw for work in granite, Stimm replied **'ink but also biro pen (ball point pen) because it is cheap (laughs). Because it is at hand. The line is not so important but in some cases some artists...it shows tremendous effort and qualities the ball-point pen.'** Linked to this correspondence is an economy of line upon which both Stimm and Spalt lay great emphasis. Stimm talking (in English) about a ten-ton block of granite in front of his studio which he has been thinking about for ten years: **'The reality of a volume is irreplaceable. Sometimes it is necessary to go around for to feel the presence of volume but the fact is that it is very important to feel the depth of a**

volume.' When asked if this could be captured in drawing, he stated, **'Yes, sometimes but mostly with very few lines. Not imitating the third dimension...More is less'** and **'When I make a drawing with very few lines then this stands for** (stellvertretend für) **the volume. The better the drawing is the fewer the lines it has and the more it is for me a reference to the volume. It does not show the volume illusionistically in the third dimension but with a few lines I can translate how the volume behaves in the drawing.'** (see Fig. 36) Kanfer talked about his use of pencil and felt tip: **'I use a pencil I carry around with me but quite often, even with floor plans, I do use a felt pen because it is soft, it flows easily, you get thicker lines. To be quite honest the thicker lines have got one advantage, you can get over details'.** Kanfer talks about how beneath the felt pen lines are the pencil lines he starts off with and which he uses **'to see it better, that's all really'**. Mosswitzer has different drawing instruments lying around and uses many of them in the same drawing: **'Everything which happens to be there'**...and in answer to why different drawing instruments he said, **'simply because you orient yourself better... you see better this part or this part, this is sometimes connected to my intention to build in different materials, then I colour it in. Or just as an orientation...some other material or another structure.'**

Coleridge had a view of the relationship between subject and object very similar to the concept of Artaud's on the subjectile which I have used earlier to characterise the TD. Following Coleridge's, in the act of TD the subject becomes his own object through 'immersion' in the act of drawing. In this act we do not distinguish between self and object. At

first glance this may seem to be merely a reiteration of the credo of self expression, but Wheeler says that this is not Coleridge's intention; rather Coleridge's view of self is not as an inner entity or synthesis, but as a developing continuity and identity between inner and outer which, as Coleridge (in Wheeler, 1993, p.158) stated:

"Can be neither Subject nor Object...but the identity of both...And yet to be known, this Identity must be dissolved - and yet it cannot be dissolved. For its essence consists in this identity. This contradiction can be solved no otherwise, than by an act...the principle makes itself its own object (and) thus becomes a subject."

It is the oscillation between the act of drawing which creates an object and the reflective gaze which Goldschmidt observed in her paper on the dialectics of drawing. "Thoughts and things are not absolutely heterogeneous, not prior to the other, but are continuous one with the other" (Goldschmidt, 1991).

Stimm states that the drawing makes it possible to see, **'the efficacy** (Wirksamkeit) **of the material, how it comes to life. How it is, not only on paper but its haptic effect'.** Stimm not only uses drawing in relationship to objects but objects for him also take on the graphic structure of drawing. He discussed this as he looked at a lattice work column of rusted iron which he had found in the area of the Prater woods and had sawn from its base and taken back to his studio. The author remembered that some years ago he had exhibited this column in an exhibition just as it was and, beside it, a block of wood of the same dimensions. Stimm said that in one way he **'saw the iron column as a graphic structure, just as a structure, a pattern'.** But he also talked

about the sensual qualities of this column, of its surface that he likened to **'an enlargement of the surface of the moon'.** He presented the author for the first time with a realisation that drawing was a two-way process in that it could not only represent objects and space as well as sensuous material qualities and effect, but also objects themselves could be seen as drawings.

In this interview Stimm actually began to draw the column carefully and, towards the end of this activity he suddenly related the column to **'the problem of the helicodalen curve which has always interested me'** and proceeded on the same page to rough out how this might look in wood in a form of drawing more characteristic of his exploratory, transitional process.

In this interview, I mentioned a simple fact that had occurred to me some days previously. To explain this, I drew a simple cube in oblique view, remarking that we saw this as three-dimensional by virtue of the fact that three sides were invisible. Thus absence is built into drawing conventions. We are so familiar with these conventions that we forget that they depend on a view of the paper as 'empty space' occupied by the deployment of drawings, which turn the paper into a space where the drawing is not on the paper but in the space of the paper. The fascination of TD is that this construction of depth is contravened continually by the use of other modes which do not rely on a convention of creating a third dimension. Thus the TD alternates between the paper as a surface for linear one-dimensional signs such as writing, indices, figures and diagrammatic signs and as a space for signs which are read as having three dimensions.

The agent's orientation to, and appropriation of, these signs is socially accomplished and enables the agent to 'see' the spaces, which are the objective of the practice, in a qualitatively different way from that of a non- practitioner. I would suggest that this involves not only seeing particular aspects of 'reality'*t hrough* drawing, but also seeing particular aspects of reality *as* drawing in the way Stimm described. Thus the semiotic material of TD in the external world is also, as Bakhtin states in Emerson, "the semiotic material of inner life - of consciousness" (Emerson, 1986, p.25).

'The word thing'

In the little research which has been done into the phenomenon of the kind of drawing I have described as Transitional, a misconception has arisen that, because TD is often done in a group of two or more people and is accompanied by articulated speech, the drawing of the agent can be understood by asking him or her to express in articulated speech what is going on in the drawing activity. Goldschmidt's important paper of the study drawings of architects (1991) is based on this approach and I have also an example of this from my informant Kanfer. Lawson does not use the term 'Study drawings' often used by architects, but instead employs the term 'Design drawings'.

At first glance, Goldschmidt's approach seems perfectly valid: to get the informant to tell us aloud what he is doing, of the choices he is making, the decisions, the modifications, the problems. However, these outloud protocols do not mirror thought processes but are an out loud reflection upon thought processes. On the other hand, it does not seem to

make much sense only to focus on articulated speech in the external dialogic situation. The paper of Cross (1995) is a very interesting exploration of this problem, but still tends to neglect the drawing side of the design dialogue and only a partial attempt is made to untangle and relate the activity of drawing and speaking. However, this does not mean that valuable insights cannot be gained into the drawing process by informants talking about it as they do it, but Vygotsky's point that the external is changed through internalisation must be kept in mind. Thus inner speech is not a duplicate of articulated speech. Similarly the combination of the practical activity of drawing and the symbol function of speech in the external dialogic situation changes when addressed to the audience of the self. Vygotsky (in Burgin, 1986, p.57) identified an inner speech fundamentally different in its nature from externally directed communicative speech:

"Inner speech: appears disconnected and incomplete...shows a tendency towards an altogether specific form of abbreviation: namely omitting the subject of a sentence and all words connected with it, while preserving the predicate" and further on "A single word is so saturated with sense that many words would be required to explain it in external speech"

This has two very important links to TD. Firstly, the way written words are used in transitional drawing is very close to this process of 'condensation'. Very often the writing in the TD, like the formulation of inner speech, has a high level of condensation to such an extent that words are used rather like images. They become what Lyotard (in Burgin, 1986) would call 'word things' (a concept which appears in Derrida, 1978),

which are things in the sense of their density or thickness; like the words of inner speech, a product of condensation. Stimm (speaking in English) states, **'By thinking one thing it's less strong than speaking, and speaking is less strong than drawing. If I draw it, for my memory, it is stronger than thinking or speaking. Speaking is a process of approaching fulfilment but drawing is more. Drawing is documentary and writing, for a writer it must be writing which is an aid for memory. Sometimes I write on drawings, I put down a telephone number because I am afraid to forget it. I will also write one word which in this moment is pregnant with the name of a future sculpture. A word that marks an intention or a criticism. It is possible that I write on a drawing 'too kitschy', 'too Baroque','more vertical'. I use words to correct the future, in order not to forget a feeling I had when looking at these drawings because it seemed too weak or too baroque.'** In Figure 37 Stimm has written something in English, which is quite rare for him as he usually uses, apart from German, Spanish and, very occasionally French, both of which he professes to speak better than English. The English here is all the more unusual because it was written on a drawing done in Argentina where he would have been using Spanish most of the time. On the other hand, Stimm mixes with a very cosmopolitan group of people wherever he happens to be, and this may have prompted the use of English. In his note/sketchbooks there are often at least two languages in use (see Appendix E).

'Word things' might be what Austin (in Burgin, 1986, p.179) would term 'performative', which means that, instead of having a descriptive function, they are sometimes 'an incitement, an inducement, a

commitment to an action' and this would seem to be the case in the above mentioned drawing.

Vander Weele deals with text or 'type' as image all the time: **'I am always dealing with copy as well, even if it is only one word, you know, OSCE, that's copy and if that type is fat, if that type is broad, if that type is round, and type goes through fashion, just like clothing, just like men's ties, sometimes they are wide, sometimes they are narrow, sometimes they are bold, sometimes they are subtle, and they go through seasons. Type goes through seasons too.'** Mosswitzer states, **'I just write something on the drawing. What have I written there? 'Teilklemmen'.Yes, that's something technical. 'Bohrung nur Alu', that means only aluminum parts. 'Alu in gelb', ah ha, there I have coloured things to, painted sections, from the system I have had some parts painted and then built them in** (See Figs. 25 and 26).

The use of words in TD would very often seem to be as abbreviated as the drawing conventions employed: both are close to a kind of 'pointing'. It is very interesting to note that both Vygotsky and Noble and Davidson place great importance upon the act of pointing in the origins of symbol use and the higher forms of development. For these authors, the pointing gesture is closely related to 'grasp'. It is, according to Vygotsky, the pointing gesture which first indicates by movement that which is understood by others and later by the self. It is partly on the basis of this transfer "that we become ourselves through others" (Vygotsky, 1991, p.38). This applies not only in terms of the personality but, also in terms of the acquisition of individual functions. Fundamentally the sign

,function itself is a form of pointing at an object in the absence of that object.

According to Burgin (1986), the 'word thing' in inner speech hides its other side, rather as words do in dreams where, according to Freud, the process of condensation also takes place. This means that the 'word thing' has a variety of associations which hang vertically and invisibly from it and that are not of the 'transparent order' of the normal word. Here we are again reminded of the relationship to poetic composition in which words can also have another side.

One of the ways in which TD is constituted as what Mosswitzer called a **'value free zone'** is its openness to other modes, to dimensions, indexical signs and words. This multi-modality would seem to be part of disinhibitve receptivity that I shall now look at more closely.

Transitional Drawing: object relations and object use

(The following two sections are based on a paper presented at the Annual Conference of the Philosophy of Education Society of Great Britain at New College, Oxford University, April 2000).

I have developed a conception of TD as a very special relationship between subject and object which is characterized by Artaud's concept of the subjectile seen as a conflation of subject and object and of Heidegger's use of the word 'objectum' as meaning 'Gegenwurf' (counter throw) which "speaks of the fact that something has been thrown over and against the cognizing subject by the subject itself" (Heidegger, 1991, p.81). There is a contradiction between these two terms but one which is resolved, in the way the drawing acts as something

which the agent gazes at in contemplation and which allows him or her to produce, on the one hand a subjectile, and on the other something which is not a conflation of subject and object but which is an 'over and against' in relation to the agent. I believe that, by positing a dialectical relation between the subjectile and the drawing as objectum, some of the negative aspects of a view of the object as 'Gegen- stand' or as a 'Gegen-stehen' (Perrotta, 1999, p.238), are modified. It is beyond the scope of the present research to do more than mention Heidegger's effort to change the standpoint of Occidental philosophy with regard to the relationship between subject and object. For present purposes I shall conceive of the agent in theTD process as is in a paradoxical 'at-oneness' with the object or artefact of the drawing and a separateness, or detachment, which facilitates progressive refinement. The agent has something on paper but can take a detached view of it and say 'something doesn't work' and try something else. This is made possible by what seems to be a specific receptivity of TD based on the interdependency of two further contradictions:

1. The TD artefact is expendable and without conventional cultural or economic value, but at the same time plays an important role in creative practices which lead to the transformation of the material world.

2. Although we use the term 'transitional drawing' or TD, the iconic signs of drawing do not stand alone as the only sign system used on the paper. Not all TD makes use of other sign modes, but TD is certainly open to the use of other modes, and the heterogeneous quality this lends to TD makes it difficult to assign the TD artefact a cultural value.

I base my use of the word 'artefact' on Ilyenkov (in Birkitt, 1999, p.26), who uses this term, 'to refer to an object created within human culture in which activity is embodied. That is to say, the artefact has been fashioned for some use within social practices and therefore embodies and transmits that activity'. In this cycle, I have produced the key idea that TD began as a method of generating an idea and thinking it through in a collaborative social context and that this mode of drawing would have been, and still is, acquired in such a context and internalised by the individual, appropriated and turned into personal agency. Drawing addressed to an external audience in the collaborative social context becomes, through processes of internalization, a disposition of the subject to address both external audiences and the audience of the self.

In terms of Perelman Olbrecht-Tyteca's New Rhetoric (1971), TD would qualify as a discursive technique " allowing us to induce or increase the mind's adherence to the theses presented for assent" (Ibid, p.4). In this dialectical interplay, the trope is the means of putting ideas through various hoops. I will identify a number of tropes operating in TD beyond those of metaphor and metonymy identified by Herbert (1989) in the next cycle. I shall now turn to what I believe is a certain order of object use employed to exempt the TD activity from inhibitive factors.

Winnicott described an area in which we engage in an interplay between the self and the objective world of other people and objects as 'potential space', sometimes also referred to as 'transitional space'. Winnicott describes this transitional area as a "resting place for the individual engaged in the perpetual task of keeping inner and outer reality separate yet interrelated" (Schwarz, 1993, p.59). Thus 'resting place' does

not have a connotation of inactivity but rather of playful and creative activity and Winnicott attributes the beginnings of all cultural and creative activity to this space. Winnicott traces the formation of this space back to the activity of the infant who utilizes transitional phenomena to form an individual identity and at the same time provide itself with a consolation for separation from the mother.

The transitional object is not the mother but symbolically represents the mother. Winnicott thus places the metaphorical sign of the transitional object at the root of identity separation or 'I' enunciation. The transitional object achieves this by symbolization, without mistaking that which is symbolized for the actual object or person. Whereas Lacan (1977) moves from the mirror image to 'I' enunciation, Winnicott moves from the transitional object to identity formation. Whichever view we take, at some point the child accedes to what Lacan called 'the symbolic order' that "introduces difference, multiplicity, discontinuity, and mediation"(in Bonner, 1999, p.243). This order enables the child to further the process of identity formation and to enter a circuit of signification which includes both what is present and what is absent absent.

The transitional object opens up the 'potential space' between the symbol and the symbolized. Ogden (1992) says that for the adult, 'potential space' is the space of seeing 'this as that', (metaphor) and of 'what if', which he says is the condition of play and possibility. It is interesting to note, in this context, that Goldschmidt, in her important paper on the dialects of architectural sketching (1991), identifies two main modalities of argumentation: 'seeing as', which is done in the process of

sketching and 'seeing that', which takes place in the process of contemplating what has been sketched.

Winnicott's potential space, like the transitional drawing process, effects a separation of objectivity and subjectivity and avoids a static relationship between ideas and things which allows the subject dialectically to mediate imagination and reality, symbols and symbolization. The 'potential space' becomes a third area between inner and outer which I shall equate in the adult with multi-mode transitional processes, and in the child with the multi-mode object (Kress, 1997).

Winnicott sees object - relating in early childhood as an activity of projection in which the child has omnipotent control over objects. Then comes the point where the child realises the 'not-me' nature of objects, their existence as entities in their own right. This is the beginning of the change from object relating to object usage. This transition is characterised by the destruction of the object. It is the destruction of the object and its eventual survival which develops the object's autonomy. The object becomes 'part of the real' because destroyed or destructible and expendable. It is from this stage onwards that projective mechanisms "assist in noticing what is there, but they are not the reason why the object is there" (Winnicott, 1991, p.90). As Lefebvre states, "Our consciousness from early childhood apprehends itself as a reflection of what is wrought in the 'object'.." (Lefebvre, 1991, p.207). Winnicott is describing the inception of symbolization in the child. How does this help us to explain the symbolic TD practices of adults?

Drawing on 'whatever happens to be there'

My informants saw TD as taking place in a zone free from the cultural and commercial value conventionally attached to drawings. Object usage depends on the externality of the object, and this is produced by destroying the object or seeing it as expendable. The TD is often an artefact that is both 'destructible and expendable', enabling the subject to stand back from it. Gehry, the architect, did his first drawings for the Bilbao project on hotel notepaper (Van Bruggen, 1998). Wren is known to have done his first sketch of St. Paul's cathedral on a coffee house menu. One of the first drawings for the 'Havana project' was done on a serviette (Noever, 1994). The Austrian sculptor, Otto Eder, did all his drawings on empty cigarette packets (Rath, 1996). I have often entered Stimm's studio to find the proverbial 'drawing on an envelope' among the tools on his workbench. Talking about these drawings he states, **'I throw some away but I keep far too many.'** All of our informants attributed great value to these drawings in their creative process though Vander Weele (invariably) and Kanfer (often) destroyed them as 'drawings'. When asked why she threw her drawings away, Vander Weele said that it was mainly a question of the logistics of frequently moving house but also because **'there is nothing here that is beautiful, you know what I mean. It's just...'** The drawings of informants were done on paper which very often already had print or writing on one or both sides, on lined notebook paper, envelopes, newspaper, headed note paper, or on whatever is to hand, Figure. 38 is a particularly good example of this by the American scupltor Claes Oldenburg. Vander Weele draws on **'anything that happens to be there'**. She pointed out a drawing done on **'a letter to a totally different**

client about something totally different. Because I go through mountains of paper, so if we are here, whatever happens to be here, I just pick it up...' Stimm talks about **'the forgetful lightness'** (vergessene Leichtigkeit) which he has when drawing on a piece of poor quality paper **'the choice of poor quality paper is a symbol of freedom for me'** and he talks about found objects and paper as having the **'the character of the world of things** (Charakter der Dingwelt)**, then it has the 'impronta' (Spanish for impromptu), the stamp of the world of things. Heredia said, the drawing must be scratched, spat on, torn, crumpled. He said 'be besmirched but never sugared'** and **'Completely independent drawing is not a saleable object; more than anything drawing is for me just a ritual of great importance for the sweat of the work process, for the sweat of work** (Schweiss der Arbeit). Spalt drew his first idea for the 'Blasenhauser' on the back of a calender. Kanfer says about his drawings **'I threw them away once the final design was finished. It was something not good enough to keep.'**

The externality set up by the found and expendable nature of its material surface constitutes it as part of shared reality, 'as part of the real', **'if we are here, whatever happens to be here',** as Vander Weele states. The TD, in a very real, but overlooked sense, is a revival and return to that phase of development when the subject uses all the modes available to express ideas in the form of what Kress has called the multi-mode object. Kress describes how this object can be dissolved at a moment's notice and turned into something else, or cut up and used in a different way. Thus an essential feature of the multi-mode object is its dispensibility.

Winnicott states that the early stages of emotional growth are dependent upon the use of cathected objects as both 'destructible and expendable,' and it is this that constitutes the move from object- relating, where objects exist by virtue of subjective projection, to object- usage, where things are there outside the subject. Object-usage depends on the externality of the object. This places the TD outside the subject but at the same time "can feed back other-than-me substance into the subject " (Winnicott, 1991, p.94). This placing of the TD outside the subject in a 'value free zone' can produce a radical negation or destruction of the TD once it has served its purpose. With the exception of Vander Weele, however, my informants kept all or some of their TDs.

I was not able to work out why Vander Weele destroyed of all of her TDs until I read a chapter on graphic art in Lyotard (1997). Vander Weele works under the 'restraint of 'subjects' imposed upon (her)'. Her only freedom is that of interpretation and negotiation with the client. The graphic design must, as Lyotard states, 'intrigue' and "by intriguing satisfy all the constraints at once" (ibid, p.36) Lyotard draws out the relatedness of graphic art to visual art, both of which must have the quality of intriguing. But, in terms of communication, Lyotard talks about the special task of the graphic artist to communicate quickly: "...a good movie poster fills the cinema, a good logo favours investment by capturing attention"(ibid, p.40). He sees emphemerality as an essential ingredient of graphic art that, he states, is "inseparable from the event it promotes, thus from the location, the moment and the public where things happen" (ibid, p.41). In this sense, the object targeted by the graphic artist 'keeps shifting'.

Vander Weele states that she is never only on the look out for graphic ideas but also ideas of how to sell. The reason, I believe, why she only saves a few successful designs, but no drawings, is that the TDs are a product of particular circumstances, constraints and parameters. By destroying her TDs, Vander Weele jettisons a response to a target that has moved on and as such is 'ephemeral'. Each new client and object requires a new response and constitutes a new target. She destroys her TDs in order to travel light and maximize the flexibility and receptivity she needs to create something which will appeal to what Lyotard terms the 'temporary sensibilities' of the 'public'. Her TDs are destroyed to create a necessary void which can be 'inhabited' by the new object to be promoted. Once the object has taken up some form of residence, she employs processes of repetition with modifications and a 'making and unmaking' processes to achieve a closure which she and the client **'can sign off on'**.

The effectiveness of TD rests on the agents ability to 'undo' or 'unmake' it, a continual process of negation, weaving and unravelling which, like Penelope of Greek myth, is carried on as a means of indefinitely forestalling closure. In this process, it helps if the material substrate is already 'undone' and its symbolization open to 'undoing'; the paper we choose is worthless and our symbolization is open to changes of mode.

The TD is the product of 'I-as-subject' symbolization but because I can detach myself from it, it is also 'I-as-object' (Ogden, 1994). This dialectical interplay between centring and decentring of the self is the product of the found object quality of the TD substrate that emphasizes its

'groundedness', as 'part of the real' as part of what Stimm calls the **'Dingwelt'**. It is this groundedness which I believe disinhibits the agent and allows for strategies of negation, displacement and 'multi-mode' use.

The 'to hand' and expendable nature of the TD artefact and the 'multi-mode' nature of its symbolization are factors which combine to remove, absence or marginalise its cultural value to the point where, if necessary, it is consigned to the waste paper basket.

If the artefact of the TD survives, it must have the quality of something which can be left around in the workspace and refound or recovered, of something which 'survives'. In Winnicott's theory, it is the internal object of the mother-child unity which is destroyed by the use of the transitional object but which, at the same time, survives in a form that provides the child with a holding environment in which it can create an identity separate from the mother and move beyond the stage of projection in terms of the world of external objects.

The hidden, or absenced, TD is always returning or surfacing as the present TD is concealed. In this process it often suffers the vicissitudes that use in a work process entails, such as random stains and perforation that reinforce it as 'part of the real'. However, I do not believe this process is entirely one of chance, for the survival of the TD would seem to form part of the complex creation of optimal conditions of detachment involved in object use in the work space that I shall look at more closely in the next cycle.

Another dimension of the disinhibitive dispensibility of TD relates to its use in the collaborative context. In this context, it must be possible for the self and the other to draw on the same piece of paper (or in the

architect's use of acqua-fix, to draw on transparent paper placed over a drawing by the other). This in itself is a transgression of conventional views of creative artefacts as the product of autonomous activity. In order to allow for the intervention of the other, the TD must have a 'not-me' expendability that allows both for that which is displayed 'by us' and 'by the other'. In the terms of Bakhtinian dialogue, in TD the subject is involved in "active, material, semiotic intercourse with others" (Eagleton, 1983, p.102).

There is, however, another angle from which we can view the expendability of the TD artefact. The existence of TD means that, as with writers' manuscripts, we can, to some extent, trace their productive operations, their strategies of innovation. What often happens, however, is that "when construction is completed, the scaffolding is taken down; likewise the fate of an author's rough draft is to be torn up and thrown away" (Lefebvre, 1991). As Lefebvre states:

"Productive labour is sometimes forgotten altogether, and it is this forgetfulness - or as a philosopher might say, this mystification - that makes possible the fetishism of commodities: the fact that commodities imply certain social relationships whose misapprehension they also ensure" (Lefebvre, 1991, p.113).

The support upon which to conduct the initial drawing discourse is found rather than placed by the subject. The discourse of TD is essentially one of passages of transition and indexical signs of cancellation and redundancy where, as Winnicott states, destruction is seen as a change in quality or attitude toward the object. Kanfer's use of transparent overlays is a complex form of absencing or negation. **'You can put one layer over**

another. You try something and something is not quite right, you don't need to rub it out, which is complicated, apart from the fact that you want the different states.' In the next cycle I shall look more closely at this .

I have already given examples of how various agents see TD as dispensable; this dispensibility is reinforced by the random nature of the TD support, its scrap of paper quality which constitutes it as **'a value free zone',** where more than one mode can be utilised and there is an ambivalent attitude to either its destruction or survival as a cultural artefact.

Winnicott's great contribution to our understanding of the dispensable nature of the TD is that dispensibility or destruction of the object of the TD plays a decisive role in placing the object of the TD outside the self. This externality means, according to Winnicott, that the object is opened up to the world. This brings us to the deeper insight I have gleaned from Winnicott's theory of object-relating and object-usage of the essential dispensibility of TD, of its existence, or its precarious survival, on the border of destruction. The externality set up by the random found nature of the TD surface, the processes of cancellation and multi-modality and the dispensibility of the object both during and after use, place TD in a zone shared by subjectivity and reality which, to use the final words of Winnicott on this aspect of his theory, "the subject can use and which can feed back other-than-me substance into the subject" (Winnicott, 1991, p.94).

Transitional drawing and Peirce's 'interpretant'

Saussure identifies a signifier and a signified and the connection between the two makes up the sign. The distinction between signifier and signified is arbitrary. What is not included in this system is the subject. Saussure produces 'langue', or the abstract system of speech but has nothing to say about 'parole' or the concrete speech act. Peirce, according to Raguse (1995), counters this theory with a tripartite relationship in which he differentiates between three concepts: the sign vehicle which is the material substrate which refers to something else; this something else is the object and the connection between the two is dependent upon the interpretant. Raguse states the importance of not confusing the concept of interpretant with just an interpreting subject. The interpretant is rather a further sign system which expresses how the sign vehicle relates to the object (see Raguse, 1995, pp.71-94). Peirce differentiates between 'Dynamic and Immediate Objects'. The Immediate Object comprises the spontaneous images and associations the sign evokes. The Dynamic Object is the resultant interpretation that, however, is only made possible by the operation of a third element, the interpretant. The interpretant shows how the sign relation can be realised. Peirce differentiates between various forms of interpretant. The two mentioned by Raguse will do for present purposes; they are the immediate and final interpretant. The immediate interpretant works on the immediate condition of the object, and encompasses all of those experiences which help us to relate a sign to the imagination. The final interpretant makes possible understanding on a day to day basis: in other words what we need to understand to get around in the world of our particular community or sphere of activity. The

all-important feature of the interpretant is that as a third entity between the sign and the signified, it represents only one possibility and that other interpretations are possible. Eco (1979) views the interpretant as a hint as to which of many codes is to be used to interpret a given situation. For Peirce the interpretant can choose a code, but not at random, as the code only retains its validity within an interpretive community. The interpretant is in itself both a sign and a sign system which allows other signs acting as further interpretants to be interpreted. In order to be effective, the interpretant needs a subject to put it to use, not in a passive relationship to objects but actively in order to construct objects.

The activity of the agent within a field of activity, her initiation and acceptance, presupposes the existence of conventions, of the repeatable operation of the final interpretant. Although the final interpretant works with a given system, the subject uses the immediate interpretant to reinvent, through imagination and experience, in response to an immediate dialogic demand. Like speech genres, TD genres were initially invented by directly engaging in dialogue and I believe can only be learnt effectively by the same process of dialogic involvement in response to real tasks. This has important pedagogical implications that will be developed in my recommendations for education in the sixth cycle.

There are two interconnected links to TD here. First of all, the found or 'to hand' nature of the TD surface, its 'scrap of paper' quality, places the TD in a disinhibitive value free zone and opens the transitional space of the drawing to the use of multi-modes of signification where the immediate interpretant can be put to dynamic and constructive use by the subject, but only within the context of the 'final interpretants' of an

interpretive community. The interpretant would seem to involve a combination of subjectivity, imagination and what Bühler (in Lepsky, 1991, p.31) calls a symbolic field, a "spectrum of ways of representation...". Thus the interpretant would seem to be related to:

"The things to do, things to be done (*pragmata*) that are the correlate of practical knowledge, (and) are defined in the relationship between the structure of the hopes or expectations constitutive of a habitus and the structure of probabilities which is constitutive of a social space" (Bourdieu, 2000, p.211).

My identification of the operation of dialectical tropes in TD rests on a view of TD as being fundamentally a dialogic process where the interpretant operates rather like Bakhtin's master trope of interplay between centrifugal and centripetal force: "the centripetal move towards unity and the need for an individual perspective as a centrifugal move towards difference" (Baxter and Montgomery, 1996, p.152). I suggest that this is the essential dynamic of the relationship between the immediate and the final interpretant. It is the dynamic of "knowing 'how to go on' in the presence of a word, or act or object" (Lash, 1999, p.154). To keep the dialogue going, the interpretant uses an objective repeatable framework, the significative function of the final interpretant, in a dialectical interplay with the immediate interpretant. The flexibility of this process is enhanced by the dispensibility of the TD, which enables the subject to detach herself from projective mechanisms in order to reflect upon what has been displayed by the drawing process, while at the same time exempting the subject from seeing the TD as a product. In this dialectic there has to be both indeterminacy and contingency but also a 'certain necessity in the

contingency', and therefore the possibility of some form of closure. In a very real sense it is what Pascal (in Bourdieu, 2000, p.214) called 'work for the uncertain'.

Fifth Cycle of Emergent Disclosure

Introduction

In the preceding cycles, a view of TD as part of the phenomenon of collaboration has been developed, in which the drawing is used in tandem with speech acts to generate, explore and refine ideas. TD has also been seen as a multi-mode object in which there exists a special relationship of the written word and the drawing. In the sense that the drawing is a strategy for responding in the situation of collaboration, the TD is part of what Bitzer (1994, p.9) defines as 'a rhetorical situation', 'a complex of persons, events, objects and other relations'. If we extend this, as Perelman and Olbrect-Tyteca have done in their 'New Rhetoric' (1971), to include the self persuasive dialogue of the practitioner with herself, then we have a perception of TD as a form of speech/drawing performance, "joined with other types of semiotic manifestation and interchange" (Volosinov, 1996, p. 63). In this cycle, I further develop the idea of TD as being 'a rhetorical transaction' with the 'other' and with the self: I discuss the social acquisition of TD by comparing it to the way speech genres are acquired. In terms of TD as a bodily disposition or *hexis,* the role of the 'thinking hand' is explored and the concept of embodiment. The relationship of TD to dream-work and processes of condensation and displacement is linked to the tropes of metaphor and

metonymy, and I suggest that TD could serve as a metaphor for Freud's 'Bilderschrift' (picture-writing). The role of supplementary memory devices such as the note/sketchbook is examined in the light of an essay by Derrida. In the course of this cycle, further 'registers' of TD are identified. The tropic and dialectical dimensions of TD, and the dialectic of presencing and absencing in the agent's workspace, are discussed. Finally, what I believe to be the master trope of TD is identified and a view of TD in the constitution of the subject is presented.

The acquisition of speech and Transitional Drawing genres

The discussion of the interpretant and Bakhtin's ideas on speech genres in the preceding cycle prepared the ground for an understanding of TD as a speech/drawing genre. This also ties in with my previous use of Bakhtin's theories with regard to dialogic exchange and the 'voice' of the agent. It was interesting to note that at a symposium which the author attended in Vienna, entitled Design 6 'Drawing the Process '(in July, 1999) many of the speakers used the concept of 'voice' to describe the drawings of practitioners.

In the same way that the speaker of a language is not 'the first speaker', the agent is not the first to use a TD. The habitus of the agent within the 'social space' of a field of activity, her initiation and acceptance, presupposes the existence of already existing conventions. The agent acquires the TD genre as disposition to act, a habitus, builds upon it, presumes it known to other agents, uses it, transgresses it and transforms it. This involves a view of TD genres similar to Bakhtin's view of speech genres, as a link in a very complex chain, a view of process and ends

that, as Goanker states (in Gross, 1996, p.xviii) "binds speaker (agent), stratagem, discourse and audience in a web of purposive actions" (brackets are mine). Like speech genres, TD genres were initially invented by directly engaging in dialogue. Thus a parallel can be drawn between TD and Bakhtin's concept of the 'utterance'. Bakhtin states there are three factors that are inseparably linked in the utterance. Firstly, it is the wholeness of the utterance which "guarantees the possibility of a response" (Bakhtin, 1986, p.94). This wholeness, however, would appear to have a vital element of provisionality. It is this that Hardcastle states 'solicits a response'. Once the audience has "learned to recognize utterance types...(they) are able to situate themselves. Once they have a sense of the 'speech whole' and outline of the general plan they can begin to build meaning from their side" (Hardcastle, 1994, p.45). I am suggesting that in the dialogic situation in which TD is utilized, the same applies to the act of drawing as applies to the production of speech: both the speech and the drawing establish the individual agent's eligibility for membership in a particular discourse community, and this membership depends, in part, on his/her competence to both present and estimate in speech and drawing the standing of certain propositions initiated in the dialogic situation. I am suggesting that the TD genre, like a speech genre is, as Hunt states, "invented by people participating in more or less stable social situations and so the forms they continually invent exhibit stable characteristics" (Hunt, 1994, p.247).

The wholeness of the TD is, like the utterance, based on what Bakhtin would call 'saturated' ways of both speaking (and in this case drawing) which are 'imbued with a group's ways of doing things and

conceiving the world' (Giltrow and Valiquette, 1994, p.57). This wholeness of the TD is related to the presencing of the drawing, just as the utterance is related to the presencing of speech.

Presencing, for purposes of argumentation, "involves not only interpretation but also the presentation of certain aspects...thanks to the agreement underlying the language used" (ibid, p.126). This can refer to things in the past as well as to ideas and thoughts in the present. Thus presence in TD becomes a special form of perception, just as the utterance becomes a special form of interpretation. Both would seem 'easily subject to manipulation' in that TD, like the utterance, "has a certain minimum of finalization making it possible to occupy a responsive position" (Bakhtin, 1986, p.95). The use of presencing for argumentation, and the 'agreements' implicit in the genre, require a conceptual framework, which gives them meaning and "makes them relevant to the progression of the discourse" (Perelman and Olbrecht-Tyteca, 1971, p.120). The TD genre would then be not just a speech/drawing form of communication, but "an instrument for acting on minds, a means of persuasion" (ibid, p.132).

This means that the drawing must be understood by other practitioners on the basis of intersubjective knowledge. It is not, however, only the substance of this intersubjective knowledge which distinguishes one discourse community from another but also the means of representing, of presencing, that knowledge. What is of the utmost importance to emphasize, however, is that presencing either part or the whole sets something in the foreground of consciousness and pushes the something else into the background. Thus the act of presencing involves

the simultaneous act of absencing. This insight constituted a breakthrough in my research and becomes pivotal to our understanding of TD. It will be developed further in this cycle.

I have so far developed a view of the presencing of TD which, like the 'utterance', acts on the minds of practitioners in a sphere of specialised activity, by means of what Bakhtin would describe as 'stable generic forms'. In this connection, he talks about the adaptation of the agent's individuality and subjectivity to a chosen genre, which produces a shaping and development of the individual within the generic form. This is closely related to both the theories of Luria (1976) and Vygotsky of how subjectivity is 'constructed.' The generic forms, "have definite and relatively stable typical forms of construction of the whole" (Bakhtin, 1986, p.95). Thus each TD genre has its own relatively stable forms of drawing and the use of other modes in constructing wholes. But there is more to the parallel between speech genres and TD genres than this. Bakhtin says that speech genres are acquired in a way similar to native language acquisition, through assimilation and reproduction. This hinges upon a view of speech genres as being more flexible and free but this freedom only comes when we have mastered the genre, and this has important pedagogical implications for my recommendations for education in the next cycle.

Henderson (1991) uses the term'conscription device' (in much the same way as I have used the term TD genre) as drawing devices that:

"...enlist group participation and are receptacles of knowledge created and adjusted through group interaction aimed toward a common goal. To participate at all in the design process, actors must engage one

another through the visual representations of the conscription device" (Henderson, 1991 p. 456).

These 'conscription devices' serve also as what she terms 'boundary objects' that are flexible enough to mean different things to different people. This is an important point because as Star (in Henderson, 1991) states the' boundary objects' of 'conscription devices':

"... are both plastic enough to adapt to local needs and constraints of the several parties employing them, yet robust enough to maintain a common identity across sites" (ibid, p.457).

This 'robustness' enables the architect, the designer and, to some extent, the artist to communicate with other practioners but also with people outside of the field or on its periphery. At the same time it allows communication between non-practioners, as we saw in the case of the two men drawing the floor plan of a flat on the back of the cafe receipt.

'Spatial representations' and 'representations of space'

Any discussion of the genres of TD is a discussion of different social practices, both the broader task of the social practice and its semantic models. These determine what the drawing represents. The task of each social practice requires a particular depiction of space. This depiction of space serves as a tool of thought and action and is one of the initial steps in a process of production. Thus TD drawing genres involve both social and spatial practices. Each one of our informants works in a field which produces objects that are what Lefebvre (1991) terms 'representational spaces,' embodied as 'complex symbolisms' such as buildings, layouts, sculpture and art works. His 'representations of space',

however, "are tied to the relations of production and to the order which those relations impose" (Lefebvre, 1991, p.33). In our reading of Lefebvre, 'representations of space' include TD acquired by the practitioner in the immediate context of dialogic interaction and then internalised and changed. TD genres cannot be separated from social practices and social spaces or fields. Lefebvre states:

"The formal relationships which allow separate actions to form a coherent whole cannot be detached from the material pre- conditions of individual and collective activity" (Lefebvre, 1991, p.71).

These representations are a system of worked out signs, of 'representations of space' which, through internalization and appropriation, become a habitus of personal agency and at the same time part of the discourse of the field that:

"...cannot, however, be reduced to a simple 'awareness context'...(but) the relatively stable site of the co-existence of points of view...But also of practical reactions... produced from these points through habitus that are structured, and doubly informed, by the structure of the space and the structure of the schemes of perception that are applied to it" (Bourdieu, 2000, p.183).

The underlying use value of TD is that objects and space can be shown by using culturally determined drawing conventions. As Stimm says about drawing for sculpture, **'it enables us to intuit, to feel the third dimension' and 'the optical grasp of a drawing corresponds with the dynamic function of ocular touch'.** In answer to why he does not use overdrawing, Stimm replied, **'... when I draw over something, I often have a bad conscience that I only do so because of an**

aesthetic consideration which calls for more completeness. But actually you have to stand by your mistakes, if the drawing is not one hundred percent then it must not be touched up later. This is an ethical moment. This is a professional honesty' and (talking in English) **'If it is 'bonito' (pretty in Spanish) then it is weak in what it conveys. It means not making concessions'** and **'This tormenting things to completion** (fertig quälen) **corresponds to a social stricture or pressure** (gesellschaftlich Zwang)**.'**

The 19th century art historian, Berenson (1960), suggested that part of the pleasure of figurative painting was just such an 'ocular touching' of objects. But this ocular touch was evoked by illusionistic techniques linked to a particular aesthetic. Stimm, however, is talking about a sparsity of line as producing a 'feel' and a form that furthers his work in sculpture. In terms of drawing, each TD genre employs spatial representations which bring forth what is susceptible to figuration, what can be figured forth in terms of form, function and meaning minus unessential detail. Kanfer, Spalt and Stimm all expressed the idea with some variations that 'more is less' is central to their drawing practice, as central to their grasp and development of form, function and meaning.

Form, function, meaning

"Function" in our reading of Lefebvre would be the representational space, that which will not only be perceived but 'directly experienced'. 'The structure is conceived and implies a representation of space. The whole is related within a 'spatial practice'. Lefebvre saves us from the often encountered muddle in discussions of these concepts

when he states that these are not discrete entities but are interwoven and that:

"Form is the communicable but is also an aspect of use, as is structure, which is always the structure of an object that we make use of. The way that one of these concepts is brought into play, is highlighted, implies the presence of the others" (Lefebvre, 1991, p.369).

This is also the view of Gramsci (in Volpe, 1996, p.175) who advises us, in tackling this issue, not to stress "either content or form at the expense of thefunction". I have suggested that the forms of TD genres are historical and, as Gramsci states, " 'Historical' form signifies a given *language*, as 'content' indicates a given *way of thinking* which is not only historical but 'sober', 'expressive...' (ibid). Although the 'expressive', because it is mediated by experience, is also 'historical'

TD action presences and develops a form and this form is not a vehicle of thought, but is the, 'imaginative, perceptual aspects of its meanings' (ibid, p.178). Thus thought, like experience, is not attached to but, as Jandl said, immersed in forms, in an identity of end and means, 'the indispensibility of matter as co-element of thought' (ibid, p.182), of the thingliness of thought.

The meaning of a TD lies in how the agent (or indeed agents) grasp the thing. The meanings of the signs are synthesized through interpretive schemes of habitus, which are based on the 'spatial representations' of the genre, which in turn are based on the object which the sign represents: 'the representational space' of the field. The first could be described as a sign object, the drawing, and the latter as a

signified object, the end products, or works of the field of activity. Now I want to take this a probative step further.

Bakhtin, in talking about the utterance, describes a particular kind of creative dialogue which "is open and free, the unfinalisable...an occasion for interaction which can produce new and unforeseen possibilities" (Bakhtin, 1986, p.84). I would say that simultaneity or quasi-simultaneity of the agent's grasp of the image and the indeterminacy of that image creates a dynamic interplay within the agent of 'listener' and 'speaker'. Schultz (in Lash, 1999, p.152) states that the listener tries "to uncover the project of the speaker". I shall interpret 'project' here to mean what Sartre (in Silverman, 1987, p.257) states as being the way the agent "reveals and determines his situation by transcending it in order to objectify himself by work action, or gesture". This is a view of subjectivity where the self is not given, but formed through transitional object relations and habit and where the determination of the self can be seen as a form of artifice.

Schulz (in Lash, 1999, p.152) describing subjectivity, states that it is concerned with *"knowing how to go on in the presence of a word, act or object'* "(italics are mine). This 'knowing how to go on' does not seem to involve as Bourdieu states:

"A theoretical choice among theoretical possibilities..(of)... drawing up a complete list of possible choices...(and)... determining the consequences of the different strategies and evaluating them comparatively...(which is)... based on the idea that every action is preceded by a premeditated and explicit plan... in Heidegger's phrase

'unburdened of the self as being-in-the-world' " (Bourdieu, 2000, p.137-138).

It is rather, as Gross (1996), in a very interesting chapter on Darwin's Red Notebooks states, "a prolonged suspension of decision", or in Darwin's case, belief, "essential to the acceleration of internal conceptual change...The heart of the Notebooks is a 'state of indecisive flux' " (ibid, p.148 and p.157). It is also very interesting that Gross points out Darwin's propensity to modify ideas without discarding any. Thus, all ideas are present in the notebook just as all drawing is present in the TD. Even the ideas that are in abeyance, or, indeed, have been cancelled, persist as things are changed but not lost. Gross describes this creative activity in Darwin as "a rhetorical transaction with the self" (ibid, p.159) because he sees the notebooks as "enacting a drama of self persuasion" (ibid), and sees Darwin's means of expression as being "apparently in close touch with primary mental processes" (ibid) at least in the early parts of the Notebook. How are we to understand this 'rhetorical transaction with the self' in the action of TD?

So far, one sub-type of TD, 'transferential drawing', has been introduced. In this and subsequent cycles three more sub-types will be identified. It will help to think of these sub-types as 'registers' of TD.This term is borrowed from Halliday (in Wells, 1999) who employs it in the realm of linguistic activity. The register is a different kind of tool to the genre. The register straddles the genres and is recruited by the agent as a resource or strategy in terms of a particular 'rythmn' of transitionality in response to a particular situation or problem. The concept of register has

important pedagogical implications that I will develop in more detail in the cycle entitled 'Recommendations for Education'.

Transitional drawing as 'propositional mode'

Mani and Laird carried out experiments which showed that "subjects tend to remember the gist of determinate descriptions, but they tend to remember the verbatim detail of of indeterminate descriptions" (Johnson-Laird, 1983, p.162). This, they state, suggests two sorts of mental representations: determinate features based on the mental model and indeterminate ones based on a 'superficial propositional mode'. Laird is talking about linguistic structures and mental images, but later on he gives us cause to extend this to drawing. However, before I proceed it is necessary to state that although Johnson-Laird talks about mental images, the use of this term as suggesting pictures in the mind is rejected on the same grounds as Ryle, in that the picture to be seen requires a homunculus to perceive it and then another to perceive the perceiving homunculus and so on *ad infinitum*. Laird compares the imagist and propositionalist views of the mental image and finds that the only significant difference between them is that in the imagist view the mental image is created by processes similar to those underlying the processes of perception of an object or picture, while the propositionalists hold that mental images do not directly correspond to either words or pictures, that they do not share an analogous structure. I do not have to come down on one side or the other because, as Johnson-Laird points out, at one level a psychological process may use only strings of symbols, while at a higher level it may use various sorts of representation which would correspond to

the multi-mode transitional processes which can use both spatial and linear modes.

Laird's experimental subjects fell into three groups: those who tried to create a model when faced with indeterminacy and the memory loss this involved; those who tried to cope with indeterminacy by constructing alternative models representing the different possibilities (which only works for a small number of alternatives); and those who adopted a strategy of employing "a propositional-like element of notation" (Johnson-Laird, 1983, p.163). I shall read notation here as a form of note-like drawing, not as notation in the very narrow definition of Goodman 1976). What this suggests is that TD qualifies as a propositional-like form of representation which, from its very onset, was structured to cope with and utilize indeterminacy. These propositional representations are, as Johnson-Laird states, 'interpreted with respect to mental models'. The propositional-like drawing of TD is mapped onto the mental model employed by the agent. The interplay between them constitutes the genre.

Transactional Drawing

Conventionally, propositions are related to truth values and this would not seem to apply to the open-ended TD process; however, according to Laird, propositions can also be related to hypothetical states constructed by the imagination of the agent.

In an interview with Kanfer, I simulated the role of a client who wanted an Atrium house built on the site of Kanfer's present house. Kanfer had designed his house himself and thus was conversant with the dimensions of the site and other external restraints and considerations.

Kanfer told me that he had recently toyed with the idea of building a new house on the site of his present one and this gave the simulation a sense of response to a real task. Kanfer drew throughout the simulation. However, he stated that the drawing was the kind of drawing **'I would, in the office, not do in front of the client. Mind you, the sort of discussion we are having now I might have with a client but then I would say okay now I am going home and I will come back with ideas.'** I cannot say with any certainty that Kanfer's out-loud speech is equivalent to his inner speech or thinking, if we can think of thought as inner speech, because inner speech would seem to be quite different from external articulated speech, as I have already noted. At the same time, Kanfer spoke in two distinct ways sometimes using both in the space of one utterance: one a form of self-address and the other a kind of narrative of what he was doing as an example of what he does in the real life situation. All I can say of this simulation is that Kanfer's design process would be advanced by something like the drawing and talking witnessed and that his speech might correspond to the kind of things he would say in the collaborative design process. At the same time, the somewhat fragmented and abbreviated nature of his speech when drawing might be an indication of the nature of the inner speech that may accompany drawing in the independent autonomous context. The following are some excerpts from the simulation which present both forms of address:

Talking about his use of overlays in this process, **'I want to be able to put one over the other. This is a floor plan again, let's say I have got this area, an entrance area and this might be the toilet and let's say this is the living area or whatever. Somehow I have got the**

feeling that the proportions are not right, maybe they should be a bit smaller or bigger. What I want to be able to do is just leave it as it is, put the next piece over it and say okay let's try and do it this way, how does that look like if I do this'.

'So the next thing I would sort of consider is would it be more advisable to just...let's say an open view for instance, in this case away from the street, the noise...'

'...when we start drawing on the floor plan you see a three dimensional area in front of you, in front of you in your mind, and that's why I realised there is something wrong somewhere, sort of turning around and going past the toilets into the living room so we should try and fit the - possibly the toilets - into this area. That's how it works. I would say okay forget this, that's wrong, try and fit it into here, and have this as the ah - well in fact this would have to be the main hall so you can get into this area and into this area.' Figures 39 and 40 are examples of Kanfer's use of transparent overlays.

In these excerpts, and in the simulation as a whole, Kanfer seems to take up different positions by means of his drawing on overlays. Progress appears to be emergent and open to constant revision. A position is assumed rather like a candidate argument, prefaced by his frequent use of 'let's say'. This is a speculative 'let's say for argument's sake' (or, as Ryle would put it, a 'candidate path') with himself or with another person.The 'overlay' drawings make the position he has provisionally adopted explicit and the spatial entities open to clarification and modification. By using the overlays, Kanfer was able to combine a transitional exploratory approach which combined the features of both

sequential drawing, in that he could always recover prior states and compare them with later ones, with the dynamic of overdrawing in which prior drawing was visible under the present drawing. Thus there is the 'making' of the drawing, and the 'what if', the 'let's say' and the 'what is to be done' of alternatives proposed but not immediately decided upon. Kanfer changes things but the change was not always decisive; alternatives are held in suspension. Thus Kanfer's speech contained what Bruner (1986) describes as 'modal auxiliary markers'. These modal markers express uncertainty and probability (like might, could, and so on) and represent hypothetical knowledge and its "uncertainty, its invitation to further thought" (Bruner, 1986, p.126).

The overlays allow repetition and change and sometimes one of the corrolates of change, failure: a kind of failure that produces more work, a positive kind of failure. This has important pedagogical implications that I shall elaborate upon in the next cycle. It is very difficult to appreciate, in considering the words Kanfer used separately from the drawings, that in fact what was going on in the simulation was a showing-and-telling which produced a multi-mode word-and-drawing object: a spatial entity which enabled Kanfer to 'see' the 'life' that the designed space would entail for the occupants. In a sense difficult to grasp, the drawing is experienced not as a picture but as an entity that the agent enters as if it were a surrounding space.

In the dialogic situation, the multi-modes of TD are augmented by the mode of speech, a 'saying' which sometimes leaves the trace of a single word or phrase written onto the drawing. I shall now explore in greater depth the relationship of saying and showing, of words and

pictures. Heidegger (in Perrotta, 1999, p.27) traces the origin of the verb 'sagen' to say, to "show, appear, see and to make audible" and states that "all signs originate from a showing" (alle zeichen entstammen einem Zeigen).

'Saying and showing'

In his brilliant book 'The Domain of Images', Elkins (1999), carries out an in-depth investigation into 'pictures'. He comes to the conclusion that the picture is made up of a composite of 'showing and saying'. A picture shows both structure and an external state of affairs. But the picture "can also be the only mode of meaning for statements that are void, contradictory, or tautological. Pictures are often that way" (Elkins, 1999, p.65. He comes to the conclusion that pictures are 'hybrid objects' with a "linguistic, propositional, systematic and otherwise semiotic nature" (ibid, p.81). Although in his richly illustrated book there is not one single example of a TD, the development of his ideas on the picture throw much light upon phenomena of the TD.

Elkins helps us to grasp that there is a reading of every image and a looking in every text. Thus when we look at a multi-mode TD, we are both reading images and looking at writing, as well as looking at images and reading writing. I have talked about the highly condensed form of writing sometimes used in TD and, following Lyotard, have described it as often being a 'word thing'. This writing fails to meet most of Elkins ten traits of writing: that is to say there is no necessary order of reading the writing; in the TD, the viewer is free to roam over both pictures and writing; the writing in TD is often fragmented like the articulate speech of

one of my informants while drawing. Elkins confirms our finding that the written sign in a TD often "stands for much more than a single word" (Elkins, 1999, p.154). Much of the writing in a TD would count as what Elkins calls 'mnemonic pseudo writing', used to remind the agent of complex ideas, materials and processes. The multi-modes of the TD are a 'compendium of possibilities' in which writing is sometimes as indeterminate or semantically unstable as drawing.

What is looked for, in viewing a TD, is a syntactic order, but, as Elkin states, "strictly speaking, and by definition, a picture cannot have a syntax, because a picture has no fixed order of reading as a sentence does". Elkins goes on to say "the expression 'pictorial syntax' is a way of naming the persistent impression that a writing-like order is present" (Elkins, 1999, p.164). Perhaps the 'towardness' of the TD lends it more of a syntactic order than other pictorial representations. This, however, is complicated if we consider overdrawing, but less so if the architect has maintained the order of his original overlays. However, it was very often difficult for our informants to retrace a syntactic order and when it came to words it was only sometimes possible for them to place these in the sequence of the process. In the TD, reading and looking are complementary activities. This is, of course, an essential feature of the work of the graphic designer. Vander Weele says, **'What I can do that many can't do is make rhetorical images...The images create a mood and are as important, if not more important, than text. Most people's first impression is a visual impression.'** But she also talks about the visual impression of text. **'Size is critical and the type. Transfers are conditioned by type, subtle messages sent by type face...Pictures**

are messages. Pictures and words together are another message, a third text in which the messages are multiple and interwoven.'

Fiedler (in Beck, 1988) affirms our idea that TD is not the transference of a mental image to paper, but that the process of objectification is in itself an integral part of the inventive process; the means of objectification, the material and the act are not of secondary importance but are, on the contrary, identical with the creative act. In other words, as soon as the original impulse takes on an objective form, as soon as the first marks are made, there begins a process of manipulation and modification of the original impulse.

Although I cannot go into this in any detail, McCloud (1994) in his book on comics, throw another light on the saying and showing of TD. In the comic, pictures and words are combined to create an unfolding action. The multi-modes employed in TD are used to produce transitional, transformational momentum. The circling of words in the TD and the speech bubbles of the comic are both forms of drawing our attention to the words and are both an indexical means of emphasis and delimitation. However, in the comic, the pictorial syntax is reinforced by the syntactical order of the word bubbles and a traditional order of framing. In genres of TD, for example the drawings of Eisenstein for film, the convention of framing gives the drawing a syntactical order. It could be an priority of future research to investigate the TD genre employed by film makers and the producers of comic strips.

The 'thinking hand': Transitional Drawing as embodiment

TD activity places the agent in a particular mode of mental and physical attunement. One of the reasons I have for believing this is the change in voice level and the fragmentation of syntax that was noticed in Kanfer when he was drawing. But what, apart from outward speech while drawing, indicates this attunement? Robbins (2000) talks about the 'corporeal force of habitus', the corporeal dimension of hexis/habitus which Bourdieu (in Robbins, 2000, p.28) describes as "behaviour, deportment...where it serves to express the systematic functioning of the socialized body".

One aspect of the *hexis* of TD is the gaze, that has the characteristic of becoming affected in some way by the drawing which is at hand. It is a gaze that suggests that this activity matters to the agent in some way. The fact that the drawing matters, that it becomes the object of attention and concern, is grounded in the agent's attunement to the physical activity of drawing, that is a socially acquired disposition. It is an attunement permeated in all its variations by the possibility of being directed towards something, or of uncovering something, an activity which unfolds for the sight that understands. "All improving, rounding out...are an 'in order to' modifying and we concern ourselves with what becomes visible through this process" (Heidegger, 1999. p.109).

Rather as the child suspends the recognition that the puppet is both on and worked by a hand which is visible, so we 'absence' the role of the hand in TD. Heidegger reminds us of its when he states, "...the motion of the hand carries itself through the element of thinking, every

bearing of the hand bears itself in that element. All the work of the hand is rooted in thinking" (Heidegger, 1999, p.112).

We act in drawing through the hand. In German, the word for act is 'handeln', which is formed from the word 'hand'. Heidegger states:

"The hand is together with the word, the essential distinction of man ... Only a being which, like man, has 'the word'...can and must 'have' 'the hand'...the hand indicates and by indicating discloses what is concealed and thereby marks off, and while marking off forms the indicating marks into formation" (ibid, p.113-114).

Heidegger seems to have the same blind spot when it comes to drawing as many other philosophers. According to Heidegger, once we have speech, the hand comes into its own, the hand acts. Heidegger makes much out of the etymology of the word 'reading', or 'lection', which is the disclosive taking up and perceiving of the written word. Lection is col-lection, gathering or gleaning. Petersson's eye tracking experiments (Petersson, 1999) are very interesting as they confirm the 'gathering up' nature of visual perception. When we interpret a picture we make a large number of fixations: in one of Petersson's experiments nine subjects made 117 fixations before correctly identifying an image: when the image was enclosed in a frame, only 98 fixations were necessary for correct identification. These fixations occur within a very short time: the pictures were shown for two seconds and the fixations were distributed across the image. Petersson's work is in the field of attention, and it was very interesting to note that Petersson said that we 'attend to changes' as well as to things which are bold, clear, bright and so on. The multiple fixations we make of an image could be described as a collection or gathering of

information in order to make an interpretation, in order to understand what we see.

"Since we recognise the objects that we see, part of this meaningful structure must be derived from a long-term memory store containing representations of meaningful objects and categories" (Fish and Scrivener, 1990 p.120).

The important point here is not only that the mental information of the sketch is "continually updated by the integration of meaningful fragments from a flow of directed glances", (Fish and Scrivener, 1990 p.120) but that the alignment of the body and hand play a decisive role in this process.

What is missing in Fish and Scrivener's paper is a concept of drawing as 'embodiment'. But what do I mean by this term 'embodiment' in relation to TD? Stimm talks about the 'seismographic' quality of the line and Ueker, the German sculptor, used exactly the same expression on a visit I made to his studio in Düsseldorf. In answer to why he used this particular metaphor, Stimm replied, **'Vibration, tremor, this provokes something deeper, it takes the whole body nearly.'**

Levin states that embodiment refers to our ontological "receptive responsiveness and responsive receptiveness" (Levin, 1999, p.128).This tongue twister is essentially the action of the hand in presencing drawing which is simultaneous with thought, just as speech is simultaneous with thought. It is an action that is interwoven with our capacity to see and think in 'an open and opening way'. The product of this simultaneity may then, of course, become the object of reflection. The attunement of embodiment which is TD is carried forward largely through the disclosive

movements or gestures of drawing. To gesture "means 'to bear', 'to bring forth, 'to give birth' and to 'make appear'..." (ibid, p.137). These are all analogous to presencing. This figuring forth of drawing is an attunement of embodiment, a physical disposition which produces things subject to attention. It is interesting that Arnheim (1969, p.118) writes:

" The perceptual qualities of shape and motion are present in the very acts of thinking depicted by the gestures and are in fact the medium in which thinking itself takes place."

I are reminded here of the way Stimm described Giacometti at work with **'a kitchen knife'** on a figure in gestures which united the physical and the non physical, of the ultimate thingliness of thinking. I watched a man on the underground cross out words and write words above the crossed out ones, circle sentences, and indicate with a mark that additional words could be found on the next page. Some of his gestures were protracted, some rapid as he weaved his pen in and out of what he had written.

For all of us, to some degree, gesture plays an important complementary role in the speech acts of explanation and persuasion. Gesture is a kind of drawing in the air. If we think of drawing as an extension or extended use of the 'thinking hand', as Heidegger called it, and then recall the origins of TD as taking place in a dialogic process within the Renaissance workshop where, like gesture, it was used as part of a persuasive argument, then the need to talk something through with drawings becomes the need to think something through with drawings. It would seem as if the hand is moved by some kind of connection between psychological and physical processes. The problem is that the hand

produces objects for our perception but its movements are not usually objects of experience. At the same time, our hands and forearms are those parts of our body most often present to our visual experience of our own bodies and therefore central to our perception of self as a physical object. Lacan locates the event of self-identity in the' mirror stage' and Winnicott in the 'transitional object', but at the very end of this thesis I shall present the view of Sini, that places the event of being as prior to both these stages in the act of pointing out the separate existence of that which is 'not me', and thereby dissolving the 'projected' unity of the self and the world.

The hand is part of what Sartre would call the body-subject and it would appear that we can only become directly acquainted with objects and only reflectively acquainted with subject. Sartre (in Morris, 1976, p.39) echoes Ryle and Noble and Davidson in stating that we do not need to posit the existence of an extra immaterial entity as the subject, "...the body is its substance and its perpetual condition of existence." The body-subject is the centre of action. The hand, then, is not a tool used by the mind when we draw but a necessary condition of my drawing. A view of the mind and body as separate entities makes it difficult to encompass a concept of the hand as a 'thinking hand'. (see also Wilson, 1998). The man in the underground train stopped his writing and gazed up out of the window. I surmised that he was thinking about the text but I could not be sure. When he commenced writing again I knew that his hand as an 'organ of knowledge' was "quarrying the rough mass of his thoughts" (Focillon, 1989, p.157).

Transpositional drawing

According to Levin on Heidegger, the gestures of drawing are appropriated by the presencing of drawing (Levin, 1999). This certainly helps us in part to explain the phenomenon of what I have come to describe as 'transpositional drawing.' I have derived this term from Derrida's use of it in his essay on Freud's 'dream work' (1978) where he uses this word in connection with the condensation and displacement of dream work. An example of transpositional drawing, which has already been referred to, is Picasso's very rapidly executed sketch for his 'Guernica'. In the transpositional sketch, there is no time for the reification of operations but the pencil transposes the image to the paper with great rapidity in a act of displacement and condensation. Some of my informants have talked about this kind of drawing and I have examples from Stimm, Spalt and Mosswitzer. In this kind of drawing, all the essential information is highly condensed. Such a drawing can be transitional in as far as it initiates a process of further exploratory drawing or is the passage to direct working in materials. It always seems to indicate a higher order of integration, condensation and displacement: terms that we will look at more closely in this cycle.

For our informants, this kind of drawing has a very high status, both in terms of their own and other practitioners' drawing abilities. For Stimm, this kind of drawing is the very essence of authentic and uncompromising drawing with no trace of what he calls the **'bonito'**, a word he uses disparagingly to describe a quality of embellishment in a drawing. This kind of drawing would seem to be made almost in one movement. In the words of Merleau Ponty, "each instant of the movement

embraces its whole span" (in Levin, 1999, p.140).This implies a gathering up and a laying down which are almost simultaneous and highly condensed. Spalt states of one of his drawings (see Fig. 41) **'I wanted that one could see right through the house as if there were no walls. The glass wall is only a part of the living room. I wanted, in some measure, to bring the landscape into the house. Up under the roof is where you sleep. It's all drawn.'**

Transitional drawings for Guernica can be compared with the transpositional and exploratory drawings of architects. Although they involve quite different spatial representations, both comprise an initial transpositional drawing followed up by exploration of certain elements. Mosswitzer's transpositional drawing process is of particular interest, because they represent a reversal of the TD drawing as process directed towards the creation of a plan drawing of some kind. His drawings are produced in direct response to working in metal, and are based on a carefully drawn out plan or 'system,' as Mosswitzer says. Thus his transitionality does not serve to construct a plan, but is a process of 'de-constructing' a plan in a series of condensed improvisations. He does not begin with improvisations but an exact plan from which the first work of sculpture is made and after this he develops, by means of very rapid drawings, other works in which he has 'more room to improvise'. It took me a little while to understand this process. This is "a beginning retracted by being referred back to a prior beginning" (Sallis, 1999, p.13). In the moment when Mosswitzer does the drawing **'it is concrete, even though done quickly. At the moment that you do something it is concrete. I do not develop anything in the drawing...'** and **...each one** (drawing)

is a quick idea that I need in order to do the next one...I don't go to the drawing and say now what shall I make out of this one but the meaning of each drawing is clear to me...It is a hieroglyph because when I work, I work a lot. And then beside the work I have to quickly draw, otherwise I lose it...there is no working around (herumbasteln), **and that's why I have to somehow fix it...One draws, then makes and in the process of making one draws to take it further...I need this, I cannot sit down and just by using.** It would seem that the *hexis* of the drawing hand aligns both body and mind, conscious and unconscious, memory and attention. These strands are gathered up and laid down as a formation of marks. In the 'transpositional' reister of TD there seems to be a rapid and simultaneous knotting of gesture and thought.

Habit and innovation

None of our informants were able to recall or explain how they had acquired TD, although they remembered acquiring other forms of drawing practice. Stimm states, **'I remember a teacher taking the trouble to sit down beside me and from a maze of lines extract the outline of a human head'.** I am no exception to the lacunae that exists in memory as to the acquisition of a drawing form which I use almost on a daily basis in dialogue with students and in my own notebooks and artistic work. Stimm added the insight that this generic form of drawing, **'comes when you have overcome the fear of the blank piece of paper...When this happens the fear goes out of the learning process'.** The decrease in inhibitive factors seems to be interwoven with its use in immediate dialogic situations. I have observed that having used TD on a 'scrap of paper' with

students, there comes a point at which the student also begins to draw as part of the dialogic exchange.

TD can be termed an ideological phenomenon in the sense that Bakhtin uses this word to simply mean an idea system. In this sense 'all sign systems are ideological' (Emerson, 1986, p.23). The TD is 'accessible ideological material'. It is produced by means of sign conventions which are there from the start and which take shape for the individual through the medium of the 'other'. However, once the individual has appropriated the ideology of the genre and internalised it, she actively recreates it.

The dialectical relationship between habit and innovation would seem to consist of a view of convention and habit as conservative, and innovation as a form of radical displacement. However, the insight needed for innovation:

"...is a psychological state, an experience of sudden conceptual reconfiguration...the suddenness with which we experience insight says nothing about the psychological and rational processes that underlie its possibility, processes that need not be sudden" (Gross, 1996, p.158).

At a deeper level, this involves a contradiction between the socially acquired TD genre and the practitioner's creativity, between the person as product of socialization and the autonomous self and between agency and structure.

Both Bakhtin and Vygotsky sought a new concept from which the social and the self could be derived based on a dialogic conception of language. Bakhtin believed that "every ideological product bears the imprint of the individuality of its creator, but even this imprinting is just as

social as are all the other properties and attributes of ideological phenomena" (Bakhtin, 1986, p.86).

A TD genre is an habitual way of seeing and drawing which is, however, not static but has the 'momentum of transformation' which opens the habitual to new transformations. Janik (in Hunter, 1999, p.74) states that tacit knowledge:

"Is only acquired through repetition and practice - but terminates in creative activity as we learn that we have to guess how to continue to follow the example we have been given and ultimately, as we learn to invent new ways of carrying on."

The cluster of habits that make up the TD genre is a pre- reflective or pre-given familiarity with a way of drawing and seeing which produces a saturated intentionality with a transformational momentum. That which is effective in the drawing solicits the attention and interest of the subject. "It is a proposal, a proposition, or as Whitehead would say, a lure" (ibid).

If what is drawn in the TD 'matters' in some way, then it follows that some things will matter more than others. Steinbock quotes Husserl as stating that, "what comes into relief is charged with significance and is effective in the sense of exerting an effective force on an intending subject' (Steinbock, 1999, p.191). The drawing of the agent, even at the suspended level of attention operating in the register I will subsequently term 'transformational' drawing, is never drawing simply for itself but its presencing is in some degree affective and propulsive. At the same time "each thing can only offer itself with its full determinations if other things withdraw into the vagueness of the distance" (ibid) and later "effective phenomena move us, decentre the subject, as it were. I take my bearing

from them and they locate me" (ibid, p.192). In all forms of TD it might be said that the 'affective' image produces displacement and condensation; these are words which are used in connection with the trope of metaphor as a form of displacement (Schon, 1963). From a certain point in this research I began to use the terms 'displacement' and 'condensation' and at a very early stage suspected a structural link between Freud's 'dream work' and TD. This hunch was reinforced on reading Derrida's essay on Freud's 'dream work' in 'Writing and Difference' (1978). At the same time, I believe there are grounds for seeing TD as a model for dream work and as a critique of both Derrida's and Freud's ideas on supplementary memory devices .

Condensation and Displacement, Metaphor and Metonymy

Condensation, according to Horowitz, is "the compression of several latent meanings into a single manifest image" (Horowitz, 1995, p.100). Hence my use of this term in relationship to transpositional drawing. An example of this would be Stimm's first drawing for the Argentina competition, where much of what was later developed through the drawing process was already present in a condensed transpositional drawing done at two o'clock in the morning in response to the shadow of a balcony cast onto the wall of his room (see Fig. 42). This was later developed in a long series of drawings some of which can be seen in Figure. 43 and 44. A photo of Stimm with a version of the sculpture in wood can be seen in Figure. 45. But condensation can also apply to the 'word thing' from which many associations are suspended. A basic form of condensation "is the omission of some ideational elements, and allowing

a part to stand for the whole" (ibid). This observation is of key importance as this elucidates the connection between condensation and the part for the whole that is the trope of metonymy. I shall suggest that this trope is of equal importance to the trope of metaphor in TD processes.

Another function of condensation is the fusing of elements to form a composite whole. Spalt's fusing of glider construction, the pavilion and the movable screen is an example. Another function is the reverse of the one just mentioned, and consists of ideas related to several elements reduced to one element in a form of ideational compression. Vander Weele's use of the concept of interwovenness for the OSCE (Organisation for Securityand Co-operation in Europe) logo is an example of this and Figures 46 to 51 show some of the stages in her design process.

Before proceeding, it is also important to elaborate upon the relationship between the metonymic and metaphorical. Both words and drawings go beyond the immediate and the perceptible: "In principle they are acts...bringing forth what is sayable, what is susceptible of figuration" (Lefebvre 1991 p.139). Wheeler states that for Nietzsche:

" There are no things in themselves, no substances, no beings apart from the process of figuration...according to Nietzsche we only designate and distort - refigure- make metaphors...figuration is the character of language, not an optional elaboration..." (Wheeler, 1993, p.20-21).

If we remember what Elkins says about the image both showing and saying and Ryle's 'seeing what needs to be seen,' we grasp the connection between TD and figuration. The root sense of "figure and figuration are 'figura', formation, from fingere, to form" (Bryson, 1981,

p.27). Metaphor and metonymy, states Lefebvre, are 'defining characteristics of signs'. Although the TD figures-forth and re-figures, it also hides, excludes, sets aside or, to use one word, 'absences'. Horowitz writes:

"Skill at refiguring through image formation allows one to review information for new meanings, to contemplate objects in their absence, and to seek new similarities and differences" (Horowitz, 1995, p.81).

However, I shall be cautious about drawing too sharp a line between the tropes of metaphor and metonymy. There are widely differing views on the function of these tropes that are not just a matter of splitting hairs. Metaphor is usually thought of as being a process of comparison and similarity but for Lacan (in Chaitin, 1996), metaphor is an identification, and it is the structure of the signifier which makes possible the transfer of meaning. Lacan places identity before analogy and sees metaphor as a constructive process.

Metonymy can be characterized in many ways and is notoriously difficult to pin down. It is very often described as a representation of the part for the whole but also as connection and contiguity. Kanfer's exhibition work provides us with an illustration of how metaphor and metonymy complement one another. **'Exhibition work is where the shapes are more important than the functions to a certain extent because you have to attract the visitors to look at it, to look at the exhibits and it is something which is done very quickly and you can more or less see it growing.'** He then gave examples of exhibition designs which had all grown out of a linguistic concept that represented one aspect of the whole. When he was asked to design the Austrian

contribution to the museum in Auschwitz he stated, **'what shocked me most was the electric barbed wire', and he told me how he started off by sketching the concrete columns which supported the wire and this element formed the basis of the whole exhibition'** and **'When I designed the Novotel at the airport... we got Leonardo da Vinci's drawings of his flying machines on the walls. We said this would make a nice design for the suspended ceiling. The wings...So we had the connection in an abstract sort of a way of Leonardo's design as a ceiling and his actual drawings as decoration on the walls'** (see Fig.52). Another example of this is his use of the concept of 'Spielzeug' (toy) to create from an element a building block for an entire exhibition design. Figure. 53 shows the drawing which was the genesis of this idea. Spalt's emphasis on the lightness of roof construction is connected to his interest in glider construction. In all these examples, the metonymic and metaphoric elements are ingeniously combined with practical constraints and personal interpretations and preoccupations.

There is also a sense of metonymy as a substitution for that which 'has not yet been named' of the Dynamic Object. Thus metonymy is also evocation and, as such, a trope which points to the 'as yet absent' while at the same time, because of the contiguity of figuring forth, is involved in presencing. This presencing can also relate to the originary transitional experience that Winnicott talks about and in this sense is a process of identification, or metaphor. The operation of metonymy for Lacan is the equivalent of the operation of displacement in the primary process.

Displacement "results in a change of relative emphasis" (Horowitz, 1995, p.101). It is produced by the operation of metonymy and metaphor

and, as will be seen later, other equally important tropes. It is the recognition in the drawing of what Stimm calls the 'charge' that attracts the subjective vector, the 'pull' of what has been drawn. I have dealt elsewhere with Schon's (1963) theory of metaphor and the displacement of concepts so I shall not enlarge on this any further here.

But am I trying to force the square peg of language into the round hole of drawing? My investigation into TD has, from the outset, encountered a field which, as Bryson states, "has been sadly neglected - the interaction of the part of our mind which thinks in words, with our visual or ocular experience" (Bryson, 1981, p.5). Where exactly lies the connection between the use of tropes in language and its transfer to drawing or picturing? It is Horowitz who provides us with a concise answer to this question and, as we shall see much later, it is a conclusion which is also drawn by Vygotsky and which has very important pedagogical implications. Horowitz states:

" the early forms of representation, enaction and image formation, do not disappear as the new lexical capacity is gained. They do not remain at primitive organizational levels. They probably continue epigenetic development because the acquisition of lexical capacities increases the availability of schemata for organization of information in any mode " (Horowitz, 1995, p.84).

In other words tropes, as the creative motor of language organization, are made available in the developmental process to other modes of signification, including drawing.

Transitional drawing and 'Bilderschrift'

Derrida's essay (1978) centres on the Freudian concept of dream work as a form of 'writing' and its relationship to memory traces. Freud, like Bergson, believed that the memory trace is not static but is subject to reworking. This reworking also takes place in the dream and consists of a 'writing' which is non-linguistic and alogical. "Since dreams are constructed like a form of writing, the kinds of transposition in dreams correspond to condensations and displacements..." (Derrida, 1978, p. 208).

This 'writing' reworks 'old facilitations' or a mass of 'sedimented elements' present in the individual's history; Freud compares these elements to Chinese script. These elements are the dream symbols and frequently have more than one meaning. Although Freud uses the word 'writing', this writing is a 'Bilderschrift', a picturing or graphic script which produces a form of unconscious text that is already a 'weave of traces'. This 'Bilderschrift' breaks open a path but it is a path where meaning is reconstituted by a process of deferral.

Freud (in Derrida, 1978, p.216) writes about the metaphor of the 'Wunderblock', the magic writing pad that solved for him *" the difficulty involved in supposing that one and the same system could accurately retain modifications of its elements and yet remain perpetually open to the reception of fresh occasions for modification."*

When I discuss TD as a supplementary memory device, I shall return to this and its relationship to TD.

At this point, it is important to realise that the 'Bilderschrift' of dream work "is irreconcilable with an understanding of 'writing' as the

linear unfolding of linguistic speech" (Derrida, 1978, p.218). Derrida describes the role of words in dreams as being rather like the captions in comic strips and states that what cannot be represented in dream work 'Bilderschrift' is represented in words. There is a parallel here with the role of words in the TD, where what cannot be represented in drawing is represented in words.

Freud describes the text of the dream not as an inscribed image but as a 'figurative script'. Derrida states that this figurative script, which is a form of multi-mode text, "... 'summarizes a discourse', it is the economy of speech "(Derrida, 1978, p.218). Derrida says the words in the the dream tend to become things and coins the concept also used by Lyotard, of 'word thing' that I have used to describe the nature of words in TD.

Freud searches for a metaphor for the diversity of modes and functions of signs in dream work and has recourse to the hieroglyph. When Freud chose the hieroglyph he was looking for a multi-mode but predominantly pictographic form as a model for dream work.

Valery, one of the most perceptive writers of the 19th century, wrote:

"Could anything be more remote from dreaming than the act of drawing? In front of a picture I cannot but think, however vaguely, of that act, demanding as it does the fixity and steadiness of a certain point of view, the interconnection of moments, the co-ordination of between hand, eye, and the images..." (Valery, 1960, p.146).

The difference between the dream and TD is that the dream is complete and compelling. It is a finished work, so to say. Dream work is

also different from TD because TD is made by the hand: a hand which grasps at what exists and works with what does not yet exist. I have emphasized the importance of the action of drawing but by drawing a parallel between dream work and TD, the focus is on the multi-mode textire of theTD and the text or the 'Bilderschrift' of the dream. The focus of our parallel is that which Eagleton draws between the literary text and the dream and lies in the ambiguity which resides in both and which is "appropriate to the displacement and elision of meaning" (Eagleton, 1996, p.319).

I would suggest that multi-mode TD serves just as well, if not better, than the hieroglyph as a metaphor for the figurative script of dream work. The TD is multi-mode, it utilizes words as 'things', and is based on a process of deferral and indeterminacy.

Transitional drawing as 'supplementary memory apparatus'

There is a very interesting passage by Freud (in Derrida, 1978, p.222) on materialized writing as a way of remembering:

"If I distrust my memory...I am able to supplement and guarantee its working by making a note in writing. In that case the surface upon which this trace is preserved, the pocket notebook or sheet of paper, is as it were a materialized portion of my mnemonic apparatus, the rest of which I carry about with me, invisible. I have only to bear in mind the place where this memory has been deposited and I can then reproduce it at any time I like, with the certainty that it will have remained unaltered and so have escaped the possible distortions to which it might have been subjected in my actual memory."

Freud's reference to writing here is to the conventional form of writing not the 'Bilderschrift' of dream work. Derrida says about conventional writing that, as a form of fixing supplementary memory, it fails to satisfy the double requirement of a "potential for indefinite preservation and an unlimited capacity for reception" (ibid). He qualifies this further by saying that although the piece of paper can preserve indefinitely, it is quickly saturated. Freud notes that auxiliary apparatus, such as the notebook, are constituted on the model of the organ to be supplemented. That is to say, they are structured and operate in a way similar to that of memory. But, in the case of memory, the written note is particularly deficient. There is no indication that either Freud or Derrida have carefully examined the way notebooks function in relation to memory or to transitional processes. However, in Gross' work on Darwin's notebooks (Gross, 1996), a very different picture of the role of the written note and its relationship to memory structures is presented. Gross describes the different kinds of notes Darwin made. Initially these notes are in cryptic propositional forms that deviate markedly from the coherent flow of conventional writing. The language of the notebooks is on the threshold of disordered incoherence. However, Gross points out that, although Darwin used a kind of complex cryptic writing, these notes do not issue at all from short-term memory but from long-term memory storage and display: "an absence of connectives, especially logical connectives; deviations from syntax radical enough to render semantic connections problematic..." (Gross, 1996, p.146). It would seem that these notes form part of Darwin's transitional thinking processes that are characterised by deferral, condensation and displacement.

Gross claims that this form of note taking is in close touch with primary mental processes and long term memory. Darwin uses this form while he is uncommitted to an assertion, enabling him "to maintain the prolonged suspension of belief essential to the acceleration of internal conceptual change.." (Gross, 1996, p.148).This note taking enabled Darwin to retain and modify ideas. Gross claims this to be Darwin's most creative phase, describing it as 'a rhetorical transaction within the self ' that constitutes "a disciplined lack of commitment to the full truth of assertions, a deficiency that enables the evolutionary transformations to final theory" (Gross, 1996, p.159).

It would seem that writing of this kind has certain things in common with drawing. The first thing is that, because of its cryptic style, it can be taken in or grasped with some of the simultaneity of the picture. It would also seem that this kind of note taking does fulfil the double requirement Freud (in Derrida, 1978, p.216) mentions of "a potential for indefinite preservation and an unlimited capacity for reception". It resists saturation and remains 'open and opening'. The TD remains open to the past of transferential drawing but also to the bricolage connections that appear in the real world, as well as to originary transitional experience. The transferential drawing, like the cryptic note, would not seem to be a static, quickly saturated, memory trace. Elkins and Gross have produced the insight of the overlapping nature of the drawn and the written and that both can serve in a non-arbitrary and indeterminate capacity.

Stimm's note/sketchbooks as 'Bilderschrift'

Appendix E is a selection from one of Stimm's note/sketchbooks from his time in Africa, where he taught sculpture, and is a striking example of the interwovenness of modes.The writing is in three languages: German, Spanish and French and there are also a few words of the local African language. Language is often used in a performative way in drawings but also for inventories and as a way of recording some of his teaching activity, ideas and even the names and work of his students. There are also calculations and dimensions and accounts. The TDs take up problems he had begun work on in Argentina together with the new impulses from the African environment; there are drawings which record welding processes and tools, inventory tools and local implements, the construction of a work space, an inventory of sculptures exhibited in Africa and many ideas which were developed into sculptures at a much later stage appear for the first time. In this book, Stimm goes through an extremely complex process of exploration and experimentation, producing ideas that have subsequently become relatively stable components of his work. The entire book is like a finely meshed weave composed of a multiplicity of strands in which there is a deferral of closure and a modulation of motivation, so that action can be delayed and thought oriented towards theoretical and real possibilities, problems and solutions.

The indeterminate weave of the TD multi-mode drawings in such a book could serve as a model for dream work and *vice versa* in that theTD and the 'Bilderschrift' of dream work both "permit the shifts in representation known as condensation and displacement" (Horowitz,

1995, p.98). Horowitz makes the important point that condensation and displacement are also functions of secondary process. Secondary process "orients thought toward real possibilities.." (ibid, p.99).The 'working drawing' or 'Werkzeichnung', that is an integral part of the TD process, would be an example of this 'reality testing' procedure. The ability to detach or distance oneself from the TD, to defer or delay closure and, very importantly the ability to switch modes, would also belong to secondary process.

Freud and Horowitz both claim that central to the mechanisms of primary process is the use of visual images of condensation and displacement. But most significantly Horowitz says, "these characteristic mechanisms of the primary process... are also used to various extents in image thinking, in states other than dreaming" (ibid, p.100). I suggest that TD, particularly as it occurs within the supplementary memory device of the note/sketchbook, is a form of such image thinking in continuous interaction with secondary process.

The workspace as an 'extension of being'

I shall now return to Freud's observation (in Derrida, 1978) that auxiliary mnemonic apparatus are constituted on the model of the organ to be supplemented.

Much, though not all, TD activity takes place in the agent's physical workspace: the sculptor's studio, the graphic designer's and the architect's office. This space, according to Lefebvre, "embodies distinct and distinctive 'traits' which attach to the mental form of space without, however, achieving a separate existence as its external super added

content" (Lefebvre, 1991, p.292). I realised that supplementary mnemonic material was placed at varying depths of retrievability in my own workspace, which is the art and design classroom and the painter's studio. When I asked Stimm about the way he organized material in his workspace, he stated that he had spent twelve years trying to reach what he described as **'a level of integration'** in the workspace. He added that this integration was still not as complete as the level of integration he had achieved in his studio 'Villa Ballister' in Argentina in the early 1970s, a disused factory that had twenty metres of shelving. Appendix D contains photographs of both the studio in Argentina and Stimm's present studio. The level of integration in the studio in Argentina had been facilitated by what he described as a balance between **'tradition and actuality'.** By tradition he said he meant the remains of a technology which still relied on 'Handwerk' or craft. Elements of this technology, which came along with the factory space, were incorporated in a bricolage fashion into Stimm's sculptures during this period. He stated that the relationship of the room to the necessities of his work and creative process was of paramount importance, describing it as **'an extension of your being'.**

He talked about the way he constantly changed the constellations of objects in the workspace so that he could **'be influenced by different glimpses'.** These **'glimpses'** can produce the need or the awareness that a piece of work should be taken up again and he gave the immediate example of the piece of sculpture on the floor beside the author's chair: **'the angle of vision is such that it is fascinating and prompts me to further its development'.**

One very important part of the workspace in terms of the arrangement of mnemonic material is its interior periphery, the walls. In Stimm's studio there is one large drawing hanging from the ceiling that appears to have a formal relation to a number of his sculptures. In fact, this drawing is a number of photocopies of a drawing enlarged and arranged together. Stimm talked about the pictures on the walls of the workspace which were by him and other people. He said he never looked at these but because they were of, or by, people who had had an influence on his life and work. They **'create a certain temperature'** and **'represent the strengthening of one's own position in some way'** and also **'the staking out of a path or way'.** He further described these pictures as being a **'secret selection'** and **'possessing a certain warmth'.** The pictures included a drawing by the poetess Malknecht, a drawing of the Yale University anthropologist and linguist Robert. F. Thompson Jr., a painting by the French scenographer Berger, works by the artists Alberto Herredia and Pablo Serrano dedicated to Stimm and a small painting by the author.

In terms of the constellation of objects in the workspace, he spoke of **'new constellations which stimulated his interest and attention'.** Some pieces of work come into existence from things which are lying around but which have passed what Stimm described as **'a first muster or test'** (eine erste Prüfung) and which now, in a new physical context with **'a new voice'** become articulate. Because these objects are already marked out or marked off (vorgeprägt) they render up their connectedness. Drawings in the workspace were positioned at different depths of visibility and accessibility. Each time I have been to the

workspace there have been different drawings on the workbench (which also frequently changes position). The greatest concentration of drawings in the workspace is in a semi-enclosed space in the centre of the workspace. Here there are notebooks and sketches. Stimm expressed dissatisfaction with this area and said, **'I should open it. I built it to have more concentration but I am too closed off from the movement of the work process. This space condemns me to passivity when I need expansion'.** It would seem that both objects, works in process and completed works, as well as drawings, are situated in such a way as to allow them to interact. Drawings and objects are so placed as to allow them to periodically appear or be retrieved for deliberate perusal. The drawing would appear to be a conceptual organizational locus or junction for the various transactions and transitions which take place in the workspace between the agent and the ever changing constellations of objects and materials.

The changing constellations in the workspace and the new orientations they produce would not appear to be accidental, although some configurations might be the product of chance. Primarily, Stimm's workspace is a product of organized purpose, the purpose being the creation of optimal conditions under which creative thinking and activity can take place. The constantly changing constellations of objects, materials, tools, drawings and works presents perception with ever new possibilities of juxtaposition and combination. The hidden, or absenced, is always returning or surfacing and the presenced is concealed. The relationships between the **'charges'** of objects is altered with every new constellation and thus subjected to different readings.

Stoessel (1994) traces in depth the relationship between the work of Giacometti and his studio in the Rue Hippolyte Mandron. This is one of very few works which deal with the situatedness of artistic activity. (see also Lieberman 1970; Kelly 1974; Bellony-Rewald and Peppiatt, 1982). According to Stoessel, the studio played an important role in the 'extraordinary interweave of drawing, painting and sculpture' (Stoessel, 1994, p.98). The wall of the studio is of particular interest (see Fig. 54). Stoessel describes the way the walls "transformed themselves into an over-dimensional piece of paper" (ibid, p.83). The walls were worked on with pencil and oil paint and scratched into with a knife. The configurations on the walls were in a constant process of transition because Giacometti constantly added new work and, at the same time, destroyed or overworked what was already there. Stoessel states that the walls were not used for designs nor for the representation of completed work in the room but rather "as reflections of what preoccupied the artist, as a mirror of the state of artistic concerns and problems" (auseinandersetzungen) (ibid, p.84).

Stoessel, it must be said, does not hold a view of the purposive organization of the workspace in Giacometti's case but puts the way works were moved from here to there down to the confined space of Giacometti's studio. He states that this produced an unconscious rearrangement in which the sculptures joined together on the floor of the studio in chance compositions that suggested new solutions.

Whether by chance or partially purposive, one of the important points is that the multivalent mnemonic devices of the workspace act in a way rather like Freud's 'Bilderschrift' in that they do not invite "a simple,

conscious, present perception of the thing itself... but a reading". The workspace itself, like dream work, "becomes a signifying chain in scenic form" (Derrida, 1978, p.218). The agent organizes the mnemonic and other material of the workspace so that the unconscious can send out feelers which sample "the excitations coming in from the external world" (ibid).

A salient characteristic of Stimm's drawings is repetition with modifications. This repetition is, I shall suggest, one of the most important tropes of the TD process. It is closely related to what Mitcham (1994), in his book on engineering and philosophy, calls "slowed down or spread out invention through innumerable minor modifications" (Mitcham, 1994, p.217). This, says Mitcham, is the essence of innovation. The trope of repetition with modifications is central to the TD process. Repetiton would seem to engender ellipsis, a moment of alterity which delivers up a wholly new view of the idea. Thus there is an alternation of repetition with modifications and alterity where the exigencies of a repetitive development can produce displacement. It is interesting to note in passing that to Fricke (2000), variable, paradoxical, phasal, manic, ritual and comic repetition are the central features of a theory of art.

Stimm's drawing, like the drawing Giacometti did on his walls, involves important elements of testing and overcoming technical problems but also of being open to new orientations, to action presented by the changing constellations of the workspace. Stimm's workspace is an interweave of the alignment of objects in space and the attunement of transitional drawing . Both are interwoven into "a complex of mobilities, a nexus of in and out conduits" (Lefebvre, 1991, p.93)

Shortly before writing this cycle, I acquired the catalogue of the work of the artist couple, Anne and Patrick Poirier (1991). In the catalogue there is a work entitled 'Plan of the Mnemosyme' which, to put it as briefly as possible, is a series of two and three dimensional representations of the human brain as architectural space. This triggered a number of reflections upon the situatedness of creative process in the workspace and our discussion of supplementary memory apparatus. The way Stimm organized his 'real' space is in some way related to the way he organized his mental space, his mindedness. The one implicates, involves, underpins and presupposes the other in the same sense which Peppiatt (1996) refers to when, writing about the studio of Francis Bacon, he states, "the ankle deep strew of books, photos, old shoes, paint tubes, rags etc., that covered the studio floor was like the partial physical manifestation of the mental compost" (Peppiatt, 1996, p.230) (see Fig. 55). The configurations and constellations, the absences and presences in Stimm's studio are 'a present space' taken in by the agent as "an immediate whole complete with associations and connections in their actuality" (Lefebvre, 1991, p.37). The things in the workspace have different 'charges'. These charges are related to work done on the objects in one form or another and are thus, along with completed works, all supplementary mnemic apparatus. Bartlett (1932) actually calls memory 'reproductive imagination' (in Rycroft, 1991, p.130); an "imaginative reconstruction, or construction, built out of the relation of our present attitude towards a whole active mass of organized past reactions or experience". This is analogous to what Peppiatt, writing about some of the sources of Bacon's imagery, calls "the vast compost of impressions

and memory traces that remain from an entire existence spent scanning all forms of life and art " everything "from freshly scribbled graffiti, Baudelaire, Abattours and golf manuals" (Peppiatt, 1996, p.229-230). There is a suggestion that the changing constellations of objects initiated by the physical work of the artist, and the changing configurations of objects and materials in the workspace, combined in some way with the 'vast compost' of experience, fulfil the same transformational tasks as memory does when it reworks and reconstructs in novel ways in dream work.

Transformational drawing

There is one register of TD activity that would appear to have a particularly close relationship to primary processes. It is the type of drawing which, borrowing a term from Henry Moore mentioned earlier, I shall from now on describe as 'transformational' drawing. Fuller (1993, p.79) describes this mode of Moore's drawing as a "one-person version of the squiggle game", which interestingly was a game Winnicott used in his analysis sessions with children. Fuller describes it:

"As working with no preconceived problem to solve, with only the desire to use pencil on paper, and make lines, tones, shapes. Moore found that at a certain point, imagery would begin to crystallise, and a sense of meaning and order would arise seemingly from the process of drawing itself" (Fuller, 1993, p.80).

It is used by Stimm as a means of idea generation and partakes of what he describes as **'das spielerische',** the playful. It is necessary for us

to look at this phenomenon in some more detail and to compare it to and differentiate it from what is commonly called 'doodling'.

Transformational drawing is carried on in a state of mind where intention is reduced to a minimum and awareness is kept at a level which will pick up on images of interest but no more. Horowitz says "images may increase when planning decreases and persons enter a state of directionless thought" (Horowitz, 1995, p.29). Thus automatic drawing works on the principle that the less the agent concerns himself with content and conscious arrangement, the more frequent and vivid picturing becomes.

The important characteristic of this kind of drawing is that although visual images increase, there is an accompanying decrease of reflective awareness. The drawing itself provides just enough sensory stimuli to maintain arousal. In this form of drawing, internal inputs gain more representational power than external inputs. The lack of perceptual clarity would seem to stimulate 'the vividness of internal elaborations'. The effectiveness of this drawing is that it can produce quite unexpected displacements.

In my investigation of 'displacement,' I came across the term 'displacement activity' (Gregory (ed), 1987, pp.195-197). The definition of this activity is largely based on the observation of animal behaviour but it throws an interesting and unexpected light on TD activity. Simply put, displacement activity in humans is an activity which seems to be unrelated to the main context of an action but has a 'disinhibiting function'. It is an 'asides' activity that furthers concentration on the task at hand. This explained two aspects of my own behaviour: why, contrary to

expectations, the hum of conversation in Viennese cafés is a highly conducive atmosphere to write in because an asides listening is also displacement activity; and the fact that I can concentrate most effectively in meetings and lectures when at the same time drawing complex doodles.

Gombrich, in 'The Use of Images' (1999), also refers to displacement activity in his chapter on doodles. Gombrich traces the origins of the doodle to a 'play instinct' of producing intricate patterns. He also closely links the doodle to calligraphic conventions and to physiognomic doodles and I share his interest in grotesques of the 16th and 17th century. Thus both the doodle and the automatic drawing are a product of the day-dreaming, inventive mind. The term 'automatism' or automatic drawing (or writing) derives from a modernist current of the same fundamental activity which creates the grotesque a conscious suspension of control which enables the agent to directly tap the unconscious. However, this suspension of conscious control does not always imply a suspension of judgmental operations. As Gombrich states, the doodle relies "on feedback...saluting whatever emerged if found acceptable" (Gombrich, 1999, p.219). How then are we to distinguish between the doodle and the automatic transitional drawing? I have talked about TD as a means of keeping the invention and modification process going. The kind of doodle done while talking on the telephone has nowhere to go as it is not driven by a purposive pattern. Figure 56 was produced by someone working in a real estate office as she talked on the phone. Fischer (1999) states that the doodles we do while talking on the phone are visualizations of the conversation and can be seen as

psychograms of our relationship to the person. Although it would appear that they are more than just a form of displacement activity, it is beyond the scope of this study to investigate this aspect of the doodle.

The automatic (as Stimm calls it) or transformational drawing, as I shall now term it, is consciously undertaken in the hope that it will generate an idea, or "serve to overcome a block or dilemma" (ibid, p.224). Thus the only distinction I can make is that the transformational drawing is consciously used as a tool or instrument of invention. This does not preclude the possibility that an agent may doodle something completely free of intentional use and find that she can use the doodle as a means of 'going on'. The point here is that "the modification of a doodle is not itself a doodle" (Danto, 1999, p.30). The doodle relies upon the abandonment of consciousness, just as transformational drawing does, but the latter is open to conscious intervention while the doodle, once conscious processes intervene, is no longer a doodle.

The doodle is a 'displacement activity' while the transformational drawing is done to open the door to 'displacement'. Agents like Stimm and the architect Gehry deliberately situate themselves for the automatic drawing process knowing from experience that if they enter the game, something of value may emerge. I suggest that the registers of TD are 'schemes of the habitus' and are based on a "practical sense of the forth-coming...of what is to be done..in order to bring about the forth-coming state of the game that is visible there for a habitus predisposed to anticipate it..." (Bourdieu, 2000, p.211).

Dialogue and dialectics of Transitional Drawing.

Throughout this research I have returned time and again to the actual dialogic context in which I believeTD originated, and in which it still plays a decisive role. I have already made reference to Bakhtin's theories on the 'voice' and the 'utterance' and now turn to the central concept in all his theories of 'dialogue' (Denith, 1995; Morson(ed).1981; Clark and Holquist,1984). Bakhtin's work was concerned with the novel as a form of dialogic expression. However, his concept of the dialogue has dimensions that are relevant for this investigation.

Goldschmidt's 'The Dialectics of Sketching' (1991) is of relevance here. This paper deals with the sketching process in architecture as "shifts between two modalities of argumentation" (ibid). She draws attention to the dearth of research in this area and she mentions the source that I shall look at in connection to rhetorical tropes: (i.e. Herbert, 1988). Goldschmidt's aim is to trace the reasoning patterns of architects as they produce study drawings while, for the purposes of the research, thinking out loud. She emphasizes the importance of presencing as a way for the agent to both understand and move forward. She does not mention the other side of the dialectical coin, absencing. Her two main modalities of argumentation are 'seeing as' which is done in the process of sketching and 'seeing, that takes place in the process of contemplating what has been sketched. Towards the end of her paper, she actually calls the 'seeing as' a metaphor, but this is the only time she identifies the operation of tropes. This is understandable because it is only in relatively recent times that efforts have been made to reestablish the link between rhetoric and dialectic, and more importantly, to disabuse rhetoric of the

stigma of embellishment which it was given in the 17th century and to restore it as the equal counterpart of dialectic as a tool of textual analysis (see Barthes, 1994; Perelman and Olbrechts-Tyteca, 1971; Lanham,1991; Gross,1996).

Goldschmidt's research is extremely valuable in spite of the fact that it lacks a concept of the operation of other modes and, perhaps more importantly, a distinction between thinking aloud and internal thinking or thinking aloud and inner speech, or between thinking aloud while drawing and thinking aloud while contemplating a drawing.

I shall now move to a discussion of both dialectic and rhetorical tropes from theoretical viewpoints that mark a break with traditional ways of conceiving them. As far as the main notions of both dialectic and rhetoric are concerned, I can only attempt in this thesis to manage what is an unmanageably wide field by foregrounding those aspects that directly relate to TD. An adaptation of Bakhtin's view of dialogue would give us an indeterminate to-and-fro process that gives voice to social communicative practices but at the same time has an ontological element. This is not an either/or, but a both/and state of affairs, a view of dialectic in which oppositions are relative, interdependent, functional and differential. The dialectical notions I shall deal with are contradiction, change, praxis, totality and finally, negation.

I understand contradiction to consist of 'the dynamic interplay between unified opposites'. As Bhaskar (1993) states, dialectical contradictions are a 'species of dialectical connection'. Bhaskar (1993) describes contradiction as 'choice situations', as "turning, connecting, branching" (ibid, p.72). The number of contradictions identified in a

phenomenon form, what Cornforth (in Baxter and Montgomery, 1996, p.16) calls the "knot of contradictions that co-exist and can change in relation to one another over time". This knot is formed of both internal and external contradictions. An internal contradiction in TD would be absence/presence, and determinacy/indeterminacy. An external contradiction would be the place of the 'value-free' TD and its relation to the exchange value of finished works, something I have touched upon in the drawings of both Tinguely and Bacon.

The dynamic interdependence of unified opposites and the dynamic relationship between internal and external contradictions produces change. In this way, dialectical processes are closely linked to transitional processes. Bhaskar (1993) describes contradictions as 'transitional points'. Lefebvre (in Gadotti, 1996, p.26) proposes some practical rules of dialectic, one of which is, "do not forget to be alive to the transitions, the transitions of aspects and contradictions, the way they pass from one to another, and the future transitions".

The indeterminacy model of dialectical change, involving shifts or transitions toward an outcome which has no known best goal state, is appropriate to the description of the change or transitional process in TD. The model presented by Baxter and Montgomery provides us with a way of seeing TD as consisting of cyclical and linear indeterminacy and 'spiralling change'. An example of cyclical change would be the emergence of the solution to Stimm's Janus head sculpture in the middle of drawing directed towards another goal and Mosswitzer's palingenetic process, the introjection or regeneration of drawing material from the past into drawing taking place in the immediate, thus providing a new

beginning. Cyclical change is also in evidence when a drawing that has been backgrounded in some way is later foregrounded again. Overdrawing would be an example of this form of change. Kanfer's use of transparent overlays produces an interesting variation on overdrawing and linear change as the preceding states can be returned to.

Spiralling change involves repetition which itself involves the recurrence of cyclical change and the palimpsest of modifications produced by linear or sequential change. Spiralling change would best describe the transitional drawing process in dialectical terms.

Praxis is of central importance to the dialectics of TD. A dialectical interpretation of TD praxis produces, as we have seen, proactive agents making subjective choices but within the normative practices of an interpretive community. I have looked at this in terms of the concepts of both habitus and field and in terms of the agent and the cluster of habits which make up the particular TD genre but which, at the same time, provide a basis for transformative and innovative action.

The notion of totality in dialectics involves understanding the phenomena of TD in relation to other phenomenon like the work space, the final product or work, and so on. Totality does not imply that a complete view has been gained or, indeed, can be gained; it is rather an approach, a particular way the agent has of reflectively grasping his or her use of TD.

I have relied on Baxter and Montgomery (1996) for these notions of dialectic but, although the concept of indeterminacy is central to their view of dialectic, they make hardly any reference to negation, which in my

view is inseparable from a notion of dialectical indeterminacy and to which I shall now address.

'The great loosener'

Bhaskar (1993), like Bakhtin, relates dialectic to dialogue as the process whereby forms arise out of each other in conversational interplay.This is a phasal development and "in effect a continually unfolding process within a permanent memory store..each successive operation is in principle bracketed and retained" (Bhaskar, 1993, p.23). He describes dialectic as 'the great loosener' an "open texture of structural fluidity and interconnectedness" (ibid, p.44). But for Bhaskar, the key to dialectic is the notion of negation and he identifies three main but interwoven forms of negation: real negation, transformative negation and radical negation. Bhaskar equates the word negation with 'absence' and 'absencing', cancellation, suspension, undoing, erasure and marginalization.

Real negation denotes the absence of a solution that has been broached in an act of presencing. Real negation then is absence as the hidden, the 'not yet attained'. Seen in this way, real negation is a form of progressive refinement. We have something on paper; it is not what we want but a probative direction towards what we want. The presencing process initiates a sequence of presencing and absencing "Presences and absences may be recursively embedded and systematically intermingled, in all sorts of fascinating ways" (ibid, p.48). Although theTD may be used to create a not yet existent object, the drawing as such is an existent object. The action of drawing deals with existing things, the

signifiers and signifieds of the drawing, but does so in the light of a not-yet- existing state of affairs. The action of drawing, to use the words of Sartre (in Morris, 1976, p.20) in another context, "modifies that which is in the name of that which is not yet. "

Real negation would also apply to the open and opening structure of the TD, which allows for the appearance of the subjective vector. For example as Dalco and Forster write about the role of the fish in the architecture of F.Gehry, "the fish represents a legacy of nature, a personal childhood experience, and an abstract ideal" (Dacol and Forster, 1998, p.22). The fish is both a conscious and an unconscious element in terms of Gehry's work. In his drawing he takes the fish out of its natural environment and puts it through an endless variety of changes. Gehry, like Spalt and Stimm, is rare in that the layers of conceptual constructs are transparent enough for us to locate the fish; in Gehry's case, the glider and the pavilion in Spalt's work and the 'moment of kilter' in Stimm's sculptures as essential scaffolds for their creative transitional processes. In Kanfer and Vander Weele, it would seem to be more diffuse but related to a play on metonymy that is diversified throughout their work. A dialectical approach to TD raises awareness of it as a dynamic interplay and transformation, but also gives us a view of products or finished works as static only when viewed as separate from process.

What the transitional processes of presencing and absencing are aimed at is 'emergence'. This emergence "is the provisional outcome of a heterogeneous multiplicity of changing mechanisms, agencies and circumstances" (Bhaskar, 1993, p. 50). The spiralling change process in TD is based on emergence and transition, which in turn depends on an

'exploitation of the past' in terms of experience and supplementary memory apparatus but also of seeing something new, and the presencing and absencing in TD also implies the existence of recuperable information.

The destruction of the TD is a form of radical negation. As I have discussed earlier, Vander Weele, for ostensibly practical purposes, destroys almost all of her TD. In fact, she had to be requested to save some for the purposes of this research.

Radical negation of the TD can amount to an erasure of process which, in terms of the larger entity of cultural processes, produces concealment of the creative process, enhancing processes of mystification as the work passes from the workspace to the social space. By keeping TDs, the agent is not deprived of the work process although this may, in the field of graphic design, reduce the flexibile response of the agent to rapidly changing circumstances.

Transformative negation refers to the means whereby a change is brought about. Modes of cancellation, elimination and circling can be interpreted as transformation by negation.

I have described dialectics separately from the operation of tropes. To isolate them is not an ideal way of going about this, but first I had to outline a very different concept of dialectic from the one which is traditionally held and I shall now follow the same procedure for rhetoric.

The trope

For a long time, rhetoric was seen as mere embellishment rather than the substance of symbolic action and deliberation. The work of

Barthes, Perelman, Lanham, Nash, Schon, Lacan and Derrida has returned us to an understanding of rhetoric as serving the imagination. This, however, does not mean the fundamental notion of rhetoric as 'the art of persuasion' can be jettisoned, on the contrary. The origin and use of TD is still carried out in the context of communication with others, where it provides one of the main modes of action in an interplay of actions which are 'verbal and non verbal' and where the drawing is a two-sided act; it is determined by who does it and for whom it is done and, as such, is part of the reciprocal relationship between agent and viewer, speaker and listener, addresser and audience. In this interplay, drawing is one of the ways of getting an audience to see something from a particular point of view. The addresser can be the I and the audience the self. The role of the trope is more like an activity, an action, a "means of creating...it gives templates, so to speak, that enable us to construct" (Nash, 1989, p.217). I shall now explore how the trope operates in terms of TD and what templates are used?

A partial answer to this in terms of the tropes of metonymy and metaphor has already been provided but are these the only tropes which operate in the TD?

According to Lanham (1991) a trope is a figure which produces a change in meaning. There would seem to be an overlap between the trope and the figure, because the figure is seen as a change of form and the trope as a change of meaning. However, one involves the other, so for the purposes of this thesis I shall only use trope while keeping the overlap with figure in mind.

The way dialectic and rhetoric combine in TD is the interplay between the figuring forth and processes of argumentation. This is basically also Goldschmidt's position, though she does not fully identify the role of the trope in this process. It is the interweave of expression, deliberation and argumentation. The rhetorical part consists of modelling possibilities, that allow thinking to occur in certain ways. The drawing creates a constantly changing emergence of propositions to which we allocate emphasis and attention or which we background or hold in abeyance. The modeling of possibilities in TD is a kind of 'rehearsal reality' (Lanham, 1993). This 'rehearsal reality', in the form of drawings, constitutes a fundamental link to the language strategies of rhetoric of which, as Lanham states, the basic technique was the rehearsal reality of 'Declamatio'. Lanham fully appreciates that the shifts which rhetorical tropes and figures produce can be applied equally well to sign systems other than language (see Sadie (ed).,1980, pp.793-802).

Herbert (1988) clearly identifies the role of the trope of metaphor in architectural study drawings which 'address an internal audience of one' (Herbert, 1988, p.26). He identifies five properties of study drawing, many of which are parallel to our findings. In terms of absencing, which I identify as a salient feature of TD operating at many levels, Herbert talks about the selection and elimination of data which the drawing process produces. Rice (in Robbin, 1994, p.291), like Herbert, states that the architect has "comparatively less room to manoeuvre once he has put an idea on paper" and lays great emphasis on the need:

"To talk around the problem, and that is not about trying to get something about the problem into your mind so it gets lodged there. The

idea should come with other people's minds a party to a process by which things get matured. Suddenly new ideas come out. I would like that part of the process to be done before too much drawing is done"(ibid, p. 291).

Herbert also talks about the initial loss of data produced by the drawing process, but states that it is made up by drawings that " provide the graphic means to add information from our cognitive experience to the solution of design problems" (Herbert, 1988, p.29). Vander Weele sums this up succinctly: **' When I have a good idea, drawing becomes a reminder. If I don't put it down on paper I might forget it. Sometimes when I think I have a good idea and when I put it down on paper it becomes cluttered and trite. I can see it as a finished product once I have sketched it. When I haven't got an idea, drawing is a way of getting one.'**

But drawing can also be a restricting influence when it 'becomes an end in itself'. Lawson discusses 'the dangers of drawing' and comes to the conclusion that:

"Good designers must be able to overcome these restricting tendencies to become seduced by their own images and to repeat easily constructed or familiar images" (Lawson, 1997, p.254).

Herbert also talks about schemata and about drawing as externalized cognitive image. His third property comprises the graphic conventions used in study drawings and he highlights the rudimentary nature of these conventions which facilitates the recall of remembered images. In his fourth property, he talks about the design process as 'cyclic' and, in this connection, he uses a dynamic concept of memory and

of drawing as 'external storage'. He makes the important observation that the small size of study drawings aids concentration and minimizes searching procedures. Graphic metaphor as a way of moving from 'the known to the unknown' is his fifth property. He rejects formalized systems of study drawing as they are based on an incomplete understanding of indeterminacy and ambiguity. With great insight he writes that, "it takes skill and experience to make drawings properly ambiguous". (Herbert, 1988, p.35). A similar criticism of the over formalised drawing and diagrammatic systems developed by Chrisopher Alexander (1963) can be found in Kühn (1998). Herbert shows the operation of the trope of metaphor in the interplay of context and exploration drawings. He does not, however, shed any light on the operation of other modes in the TD.

Herbert identifies the operation of the trope of metaphor in TD but, although he talks about ambiguity, he does not identify it as a trope, nor does he mention the operation of other tropes. In spite of this, Herbert's paper is of great interest because it is based on a parallel between the use of figures in language use and in drawing. However, his exclusive reliance on metaphor to some extent belies that there are multiple, intertwined paths in TD activity which are animated and organized by tropes other than metaphor.

The creative role of rhetorical structures in TD depends on a view of the imaginative reconstruction of objects, and a dynamic view of memory and imagination. In the TD genre, the conventions used are generalized forms which produce enough for reactional experience to take place but, at the same time, allow the agent to sustain indeterminacy. The agent may hold the drawing in a state of indeterminacy, absence it in any

number of ways or move towards what Peirce would call 'real effect' by correction and further development. Here 'real effect' does not mean a higher level of verisimilitude, but a representation that attempts to make itself more definite. This indeterminacy might be described as the moment of experimentation. If TD can be described as a mode of experimental thinking, then it is an experiment carried on through the sign conventions and interpretive 'schemes of the habitus'. The experimental thinking carried on in these schemes is dialectical in its interplay of determinacy and indeterminacy, absence and presence and use of tropes

To assign the origins of TD to dialogue and its operations to a combination of the dialectic and trope carried over from language into the realm of picture making does not mean that we necessarily think in words, in some kind of inner speech, when we are drawing. It would seem reasonable, however, to assume something like this is going on, though in a very condensed form, when the agent is contemplating what she has drawn. My research so far has pointed to a very cautious approach to a one-sided elevation of 'visual thinking' over 'linguistic thinking' which is sometimes a feature of the foremost writers in the areas of design (see Kirby Lockhard, 1994 ; McKim, 1980). Elkins and Kress have gone a long way in showing us the mutual interdependence, overlap and permeability of modes. Any concept of TD as a multi-mode object, or indeed poetic or prose composition as a multi-mode object, will perforce emphasize the dynamic interplay of modes, an interplay whose form is determined by the nature of the goal of the transitional activity itself.

I shall try another approach to this problem by adopting a certain reading of Locke (Lowe, 1995) and Peirce. Locke's thinking underpins

Ryle's in believing that thinking is an exercise of the imagination. Neither consider imagination to be a private picture show in the mind of immaterial mental objects but rather as a mode of sensing which consists of the close links between perception and imagination. Thus what we do, "when we imagine some situation is to present it to ourselves rather 'as if ' we were perceiving it exercising recognitional capacities" (Lowe, 1995, p.148). This is the imagist view of mental images. Lowe discusses this in relationship to language, that he describes as a 'reactional experience' broadly related to other people's reactional experience, making communication between people possible. Can we say the same about some iconic images?

Lowe talks about the properties of a line drawing of a stick man as being determinate in terms of reactional experience but at the same time indeterminate in terms of which way the man is facing. In drawing, we can attend to the overall form and produce a determinate interpretation while at the same time this form can contain indeterminate elements. Fish and Scrivener, whose work is based on an imagist view of study drawing (1990, p.121), propose a view of the mind as storing "visual structure as a top down hierarchy passing from general shape to to the relationship between parts down to the detailed features of individual parts'.

But indeterminacy has its limits. Lowe says "we cannot single out in looking at a drawing a 'mere something' without any classification at all' (Lowe, 1995, p.161). It would appear that drawing also possesses elements of reactional experience, but these are more indeterminate than those of language. This is what produces the ambiguity of drawing. It is

this important function of indeterminacy and ambiguity in drawing that forms the central thesis of Fish and Scrivener's paper (1990).

Their argument is that sketches use "selective and fragmentary information compatible with those available to attention" (Fish and Scrivener, 1990, p.124) and in some way are parallel to thinking structures, to the way the mind works. They state that "ambiguous or indeterminate signs can provoke innate, unconscious recognition mechanisms to generate a stream of imagery" (ibid). I have highlighted the comparison with the unconscious activity of the 'Bilderschrift' of dream work with the way the TD 'Bilderschrift' stimulates transitional, transformational processing, including the retrieval of the supplementary apparatus of transferential drawing and the changing constellations of the workspace. Fish and Scrivener investigate drawing in order to apply their findings to computer-aided design, where one of the main problems would seem to be to create the conditions of indeterminacy and ambiguity characteristic of what I call TD. I shall return to this point in the section, 'The way forward'.

Stimm likens indeterminacy (unbestimmtheit) to the fragmentary or *Nonfinito* nature of drawing, which is only partially complete but where the addition of more lines would weaken the drawing. He states **'I give myself the chance through keeping the drawing open to somehow develop the thing through a new approach'.** In this connection he talked about a certain positive **'fading away',** almost as if this were caused by a weakening of concentration which has the virtue of inducing a state in which one desists from further drawing. He states **'it is impossible to force this kind of drawing. It is related to a principle of**

pleasure'. He relates this back to what he describes as the playful (spielerisches) and to **'das Ludischer'** and here he mentioned Huizinga's famous book entitled 'Homo Ludens'. Ambiguity, he said, was **'somehow connected to the ability to avoid prematurely fixing something thus also leaving open the possibility for further development. Everything tends towards definition but this means minimising the adventurous in the transition from drawing to sculpture. Definition, although it makes the work easier at the same time, steals something from the adventure of turning the drawing into a sculpture. I have very seldom an exact drawing from which the sculpture is constructed because it is very seldom that a drawing is successful in capturing an absolute totality of form. One has seldom such a degree of certainty.'** These words of Stimm on the subject of ambiguity, indeterminacy and definition characterise the dialectical contradictions of TD. Ambiguity is the trope that holds the process open for further development. At the same time, the drawing tends towards determinacy, towards definition which, while it is essential to the process of clarifying how something will be carried out in terms of the work process, can also stultify this process if it is not mediated by a certain lack of definition. These remarks of Stimm are a very good example of how the dialectic notion of contradiction and indeterminacy are interwoven with the trope of ambiguity. Stimm brings out the complex role of attention and concentration in these remarks. It is interesting to note Lanham (1991) in this context: "if we were to define rhetoric in strictly contemporary terminology we might call it 'the science of human attention structures" (Lanham, 1991, p.134).

The master trope, the expansion of 'tropological space' and the constitution of the subject

I shall now draw comparisons between the ideas of two thinkers of the Romantic period, my central metaphor for TD as a 'Penelopewerk' and a tropological view of the construction of the self. The two thinkers of the Romantic period are Fichte and Friedrich Schlegel (in de Man, 1997).

Paul de Man's treatment of Fichte produced an awareness of the link between Fichte's thought and Winnicott's ideas on the formation of the self and potential space. For Fichte, the self is a property of the symbolic function of language. It is interesting that Fichte, like Winnicott, identifies the first transitional symbolic act as performative. Fichte calls this the first *catacheresis* , in which objects symbolically give a 'face to ourselves' and then to the other. This is the function that Winnicott attributes to transitional object use:

"This is the first act of positing, the original *catachresis* that then moves to a system of tropes; a kind of anamorphosis of tropes takes place in which all the tropological systems are engendered, as a result of this original act of 'positing' " (ibid, p.176). This has produced for us a perception of both 'potential space' and 'the zone of proximal development' as 'tropological spaces. From this, the subject moves to the engendering of the whole system of tropes and their transference to other modes than language. This, I believe, is why Winnicott describes potential space as the source or the place of all subsequent creativity.

De Man describes the process in which Fichte saw the self as coming into being by positioning entities which were not the self into relation with the self, making possible comparative and judgmental acts

which discover 'resemblances and differences'. I shall not go into de Man's description of this process, but simply say that Fichte then saw that these acts of distinguishing resemblance and difference were essentially tropological, 'the circulation of tropes within a system of knowledge'. De Man goes on to describe the way Friedrich Schlegel developed Fichte's philosophy into a very special concept of creativity which has many parallels to my findings on the use of TD. (It also provides me with an insight into at least one of the important sources of Bakhtin's theory of the Carnivalesque.)

The key concept in Schlegel's development of Fichte's philosophy of self was the trope of irony which rests on the figure of *parabasis* and which marks a radical shift in the 'rhetorical register'. Now I come to the point where the theory of the Romantic Schlegel and my ideas intersect and interweave. Schlegel talks about *parabasis* as 'undoing'; "you have to imagine *parabasis* as being able to take place at all times" (ibid, p. 179). De Man quotes Benjamin, who describes the moment of *parabasis* as 'a deliberate destruction of the form...a 'critical act' which undoes the form' (ibid, p.182). The form is undone because of "the relationship of the particular work to the indefinite 'project' " (ibid, p.183), of the Immediate Object to the Dynamic Object. This trope of undoing is, 'a moment in the dialectic', a construction achieved by a deconstruction of the Immediate Object so that the indefinite project , the Dynamic Object, is revealed. This is the moment of the dialectic when, as Lefebvre (in Gadotti, 1996, p.26) states:

"...one's own thinking surpasses itself, modifies or rejects its form, remanages its content, takes up again the moments that have passed and

looks at them again, re-sees them, repeats them through taking a step backward toward the previous stages and, sometimes, toward the starting point ". At an early stage in this thesis I adopted Walter Benjamin's concept of the 'Penelopewerk', a metaphor for the process of doing and undoing that is the essential quality of TD. *Parabasis* is the possibility, created by *Nonfinito* drawing conventions, indeterminacy, ambiguity, multi-modality, presencing and absencing and dispensibility, of undoing, at any point in the process, what has been woven together. I have looked at a number of tropes in connection with TD but it would seem that the master trope of this process is *parabasis*. The trope of undoing and of irony is central both to the concept of TD as both 'Penelopewerk' and for understanding its function of expanding the 'tropological space' that is interwoven with a concept of 'potential space' in which all creativity has its source.

I shall now link this view of TD to Bourdieu's concept of habitus and a Lacanian and Winnicottian view of the constitution of the 'subject'. Bourdieu states:

"The principle of action is neither a subject confronting the world as an object in a relation of pure knowledge nor a "milieu" exerting a form of mechanical causality on the agent; it is neither in the material or symbolic end of the action nor in the constraints of the field. It lies in the complicity between two states of the social, between...history objectified in the form of structures and mechanisms (those of the social space or field) and the history incarnated in bodies in the form of habitus...Habitus, the product of a historical acquisition, is what enables the legacy of history to be appropriated" (Bourdieu, 2000, p.150-151).

(This has important pedagogical implications for some of the ideas I shall develop in terms of TD and art work as a 'cultural resource' in the next cycle.) Bourdieu's argument, in terms of TD as a 'scheme of habitus', is that it is the *process* not the *end* of the symbolic action of TD which becomes a disposition of the person who acquires it. The habitus of TD is a 'can be' and 'what if' disposition which strategically adjusts to possibilities in a present situation and it is these concrete situations which 'call it forth.' Something is expected from the use of TD 'scheme of habitus', or as Bourdieu states:

"...a reasonable anticipation, roughly adjusted (outside of any calculation) to the objective chances and tending to contribute to the circular reinforcement of these regularities" (Bourdieu, 2000, p.214).

The TD scheme of habitus is, I believe, acquired in the social context and internalized. But how does TD or any other 'scheme of habitus' remain open and opening, structured and structuring? On the one hand, TD is open to the Lacanian triad of the Imaginary, the Symbolic and the Real, but it constitutes the Immediate Object of the 'indefinte project' or Dynamic Object. I believe the construction of the subject is the 'indefinite project' . After Lacan, the acquisiton of the symbolic function produces a 'gap' between us and the world which makes 'I' enunciation possible. Transitional activity is a constant return to the kind of object relations that produce the 'gap'. The doing and undoing which takes place in the 'forth-coming' of TD is as Oliver states, "a subject in process in relation to an object in process" (Oliver, 1998, p.96). In this relationship there is something that 'doesn't work' which produces the doing and undoing of transitional processes. Raffoul (1998, p.64) states that Lacan's

subject is "that which the signifier represents and the signifier is that which represents a subject". TD is a passage of semiosis in which the subject is absenced, or, as Lacan would put it, 'slides beneath the signifier' and is simultaneously presenced for the next signifier under which it again disappears, producing a continuous process of disappearance and constitution. This is not a process from inside to outside, from some kind of 'subject within the subject', but a disappearance of the subject under the signifier which it then becomes. Finally, if TD is one such process by which the subject is continously constituted, then the subject is also 'habitus' or a system of socially acquired dispositions which fashion the 'singularity of self' (Bourdieu, 2000).

The pedagogical implications of TD practice are explored in the next cycle. They hinge upon the social acquisition and internalization of TD as a disposition, a corporeal and symbolic way of acting in an immediate, material and concrete way, with other people and autonomously as activity that constructs both the world and the individual subject.

Sixth Cycle of Emergent Disclosure

Recommendations for education

Introduction

In this cycle, the pedagogical implications of the foregoing cycles will be explored and developed. This will involve the question of why I think it is good for pupils in secondary education to acquire TD and what kind of problems are encountered when trying to adapt this tool of expert

practice for use in the classroom. I shall look at the role of TD processes in education and what kind of knowledge these processes constitute. I shall look at what I believe to be trends in secondary art and design education which call for, and could benefit from, a better understanding of transitional processes, and their wider introduction. I shall present some of my own experiences with TD in the area of secondary International Art and Design education. A curriculum design is presented, based on the International Baccalaureate Middle Years Programme (hereafter IBYMP) Curriculum Guide for the Arts 2000 and the International Baccalaureate (hereafter IB) Art and Design Curriculum Guide 2000. My teaching experience initially makes these programmes the most effective base from which to develop my ideas in terms of curriculum. However, the overall implications of the curriculum model and recommendations are primarily intended for a much broader audience, including the National Curriculum for England and the General Certificate of Secondary Education, and will be developed in this direction in future research.

I shall present TD as related to a 'dialogic inquiry' theory of teaching and learning which involving a view of its acquisition as a 'semiotic apprenticeship'. As part of my consideration of TD in the specific context of art and design, I try to locate it between the expressive tradition and a skills-based orientation but also as a tool which can be 'borrowed' by other areas of the curriculum. An interaction between 'potential space' and the 'zone of proximal development' is proposed which gives us what I believe to be an innovative understanding of the role of the teacher in the 'site' of the classroom and the social space of the school. Finally, I shall outline a somewhat modified view of the emergence

of self identity than the one so far presented and its link to TD as the construction of the 'indefinite project' of the self .

What kind of knowledge is Transitional Drawing

Like Wells (1999), I base my concept of knowledge on a belief in the Vygotskyian social "dialogic and constructivist nature of knowledge building" (Wells, 1999, p.53). Wells suggests Vygotsky's approach to knowledge is based on an historical view of behaviour which has three levels of development. The first level is the microgenetic level that takes place in real time and response to an immediate problem because it involves the way a person uses acquired practices, tools, values etc., in a cultural activity. These produce a 'habit change' in the person at the ontogenetic level which are, in turn, part of an historical phylogenetic development of the human species. This approach allows us to see that knowledge has a past and that it is essentially social. Thus knowledge is generated by individuals but only 'in a system of social relations'. Wells goes on to argue that knowing is always mediated by artefacts of various kinds. Of central importance is the role of representation, or the activity of representation which involves using a mediational means to "understand and act effectively in the world" (Wells, 1999, p.68). Thus Wells focuses attention on the activity of knowing, both in a social collaborative context and in terms of " 'internal representations' which are mediated by artefacts that we first encounter externalized in social activity" (ibid). Thus TD would be an external tool used to mediate our own mental activity of representing and knowing. This view of internalization is not without its problems which will be addressed later in this cycle. Wells describes

knowledge as "the intentional activity of individuals who, as members of a community, make use of and produce representations in the collaborative attempt to better understand and transform their shared world" (Wells, 1999, p.76). The representations of TD do not try to uncover what Plato described as 'true ideas' which somehow exist independent of human thought. The aim of TD could be taken to be what Burke (in Gross, 1996, p.52), talking about the perspectival sense of rhetoric, describes as a:

"...resultant certainty', a certain closure which is 'necessarily ironic...since it requires that all the sub certainties be considered as neither true nor false, but contributory".

TD is often referred to as 'experimental': however, as a form of hypothesis testing, TD is not experimental in the rigorous way we think of scientific experimentation. What kind of knowledge then is TD?

In a certain sense, the activity of TD is based on a concept of the incompleteness of knowledge or of an approximate knowledge, of knowledge as speculative action. TD, like other transitional processes, rests on tentative, provisional reference points. It is knowledge which constantly moves and is at a far remove from a conception of knowledge as proceeding in one direction from the teacher to the child. It is also open to the world, using whatever lies at the learner's disposal. TD allows the learner to remain active and attentive to the knowledge received through the speech and drawing of the 'other', through the learner's own drawing and inner speech and through, as Bachelard" (in Jones (ed), 1991, pp.26) states, "the attractive force of an inexhaustible realityBut this active attentiveness of the learner is also a 'grasping at' (Nussbaum, 1986)

which involves *orexis,* a generic word for grasping at and choice that lead to innovation. Nussbaum states:

"The general notion of *orexis* is the notion of something going on internally, an inclining towards or reaching for, such that in certain circumstances action will naturally and swiftly take place" (Nussbaum, 1986, p.278).

In the educational context, the child is someone "that responds selectively to its world via cognition and orexis... (who) interprets, reaches out, and acts accordingly" (ibid, p.285). As the child develops she becomes more and more capable of '*prohairesis* ', of effective deliberation. Deliberation, states Nussbaum, is always about something, both in terms of means and further specification of the end:

"..but it is not deductive and is not concerned with universals but is grasped through insight and experience. This must always be on the look out for what is there before us in the world' (ibid, p.299).

This opens our deliberation up to the world and contingency in combination with a 'responsiveness or flexibility' which, like Aristotle's 'non scientific concept of choice', "accommodates itself to what it finds, responsively and with respect for complexity' and cannot be captured in a system of universal rules" (Ibid p.301-302). Nussbaum gives Aristotle's three features of 'the matter of the practical': mutability, indeterminacy and particularity. These are the three factors which enable the active learner to construct active knowledge.

TD is an active form of knowledge which involves an active learner in a practical context concerned with a real and immediate task who learns in a social context by watching and learning by doing.

Nussbaum makes a particularly interesting comparison between the kind of contingent 'what if' activity of TD and *tuche*, which means luck or contingency, according to which TD would be a way to expand our control over contingency. Nussbaum states that Aristotle warns us that "strategies used to make practical wisdom more scientific and more in control ...leads to a distinct impoverishment of the world of practice" (Nussbaum, 1986, p.310). It is necessary, she states, to let *tuche* in, in terms of our relationship and responsiveness to our surroundings, to contingent particulars and attentiveness to change. Bourdieu goes further and states that we should disengage ourselves from philosophies of mind and theories of knowledge (and design) which:

"...cannot conceive of spontaneity and creativity without the intervention of a creative intention, or finality without a conscious aiming at ends, regularity without observance of rules, signification in the absence of signifying intention" (Bourdieu, 2000, p.137).

The pedagogical implications of this are evident in the interest in education of cognition "of the kind of understanding of our own thinking that can arise from discussion of what we are doing when we act on a problem without conscious consideration of processes" (Stables and Scott, 1999).

The question of TD as knowledge is linked very closely to one of the cornerstones of the dialectical nature of the TD process: the concept of presencing. Ideas are announced by the appearance of something. This appearance, or 'coming about' produced by drawing is a realization of knowledge: "appearance depends upon performance for the realization of knowledge" (Silverman, 1987, p.112). What is presented is both for us

and the other. This involves us in a discussion of the difference between percept and perception. Writing about the ideas of Deleuze on the percept, Zourabichvili states that a percept is "seeing in the sense of vision and not simply sight, is *interpreting* and *evaluating* . It is to perceive and estimate the forces in what we see, to take possession of them for an instant..to test them on oneself " (Zourabichvili, 1996, p.192) Thus, a percept, according to Deleuze, is a 'critical clinical perception.' *Critical* because we discern a force or, as Stimm would say, **'a Charge'**, and *clinical* because we evaluate this force in terms of its resonance with the self. The percept unfolds and connects with other percepts. Zourabichvili sums up Deluezes ideas on the percept as "Perception related to what it can do, immanent evaluation, composition of the self on a plane of exteriority" (Zourabichvili, 1996, p.206). The dichotomy of subject and object is conflated in 'visibility' and experience is unified in practical activity.

This view of knowledge shares many of the main ideas of pragmatism of the reformist, Peircian brand that connects knowledge to action. As Haak states:

"Knowing is not isolated from, but is itself a kind of, practice - to be judged, like other practices, by its purposive success...for the object of knowledge is not immutable, independent reality, but is changed and even in part constituted by our cognitive interactions with it" (Haack, 1992, p.355).

Knowledge construction involves what Peirce described as a form of 'speculative rhetoric' which 'renders signs effective' and 'brings about a physical result' for "it is necessary to insist upon the point...that ideas

cannot be communicated at all except through their physical effects" (Peirce, 1998, p.326) and ideas and their development would to be a fundamental component of knowledge.

A discussion of 'ideas' is a major philosophical enterprise beyond the scope of this study but on the basis of the semiotic theories of Eco and Peirce it is "enough to consider whatever we think ideas are as signs" (Caravetta,1998, p.38). As Eco (in ibid, p.39) states, "ideas are already a semiotic product".

The classroom genre of transitional drawing

Neither the teacher or the student has the background knowledge and experience which the practitioner has acquired and which, in the discourse community, is the basis upon which practitioners evaluate and estimate the standing of the ideas presenced and explored through TD genres. But an important feature that the classroom setting does share with the discourse community is that both are "socio-rhetorical networks that form in order to work sets of common goals" (Freedman and Medway, 1994, p.10). Both the classroom and the the discourse community, as Bazerman (1994, p.26) states, "set in motion expectancies of role and behaviour as well as possibilities for statement and action". Thus I shall talk about 'school genres' of TD. Like the practitioner in the discourse community, both teacher and student are involved in interpretive responses to each other's speech and drawing. In the classroom genre the drawing process is opened to the dialogic interaction of a participatory audience in which the teacher may provide explicit demonstration, in both speech and drawing, of basic conventions and

what I have described as the 'registers' of TD as well as tropological ways of manipulating and transforming ideas through drawing. This activity is central to a concept I have borrowed from Wells of education as a 'semiotic apprenticeship' in which TD is not be seen as a sacrosanct piece of self expression but something which is there to be changed and improved, as 'something which is not permanently anything.'

The practitioner in the discourse community uses a particular genre of TD which is closely related to particular spatial practices and spatial representations geared towards the production of specific representational spaces. This forms the context of the creative situation in which the practitioner is positioned. But if we are to talk about a 'school genre' of TD, then in what kind of creative situation is the pupil in school positioned?

Smith (1982) would say that it is the learning situation. In this situation the pupil is working on a theory of the world. TD is a way of helping the pupil to put together a theory of the world. The school genre of TD helps the pupil to cope with the creative task of learning and of constructing knowledge, just as the TD genre of the architect helps him to cope with the creative task of designing a building, or the artist in creating his piece of work. D'Arcy (1989) makes three very important points relating to the transfer of expert practice to the classroom and acquisition of transitional processes: pupils are not fully fledged professional practitioners; they have far less time to spend on transitional processes than professionals do; our evaluation of their transitional process will be based therefore on the improvements we can detect as it takes shape.

TD, as I have already suggested, would seem to be historically linked to 'utterance' in the social collaborative situation. This would also seem to be the way it is acquired by practitioners and then internalised to become a 'higher mental function'. This has very important consequences for the acquisition of TD and other transitional processes in education in that TD conventions and registers cannot be effectively acquired as a set of abstract strategies, but only in a predominantly dialogic collaborative context which, once internalised, allows pupils to raise questions, answer them, raise objections to their own ideas and respond to their own objections and so on. Kanfer's drawing, and that of Vander Weele, both give us reason to see the drawing as a form of utterance, because the playing out of this drawing, like the playing out of the speech connected to it, involves, as Bakhtin states, 'rhetorical genres'. But the spoken utterance does not accompany the drawing utterance unchanged and, by the same token, drawing changes in the context of speech. Much more research needs to be conducted in this area. However it is looked at, it would seem that the simultaneous playing out of speech and drawing could be used in the classroom to facilitate TD acquisition.

The concept of a classroom genre of TD suggests the use of TD beyond the Art and Design classroom. Both here, and in other classrooms, the pupil can respond, in a variety of registers of drawing, to the transitional activity of the generation and development of ideas in investigatory and experimental situations. Each register can be used with different spatial representations and different alternations between signifying modes. The play of tropic permutations operates in conjunction with "the staged goal oriented social process", which is how Martin (in

Wells, 1999, p.9) defines genre, with its significant attributes both optional and obligatory that provide the framework of the transitional genre in a particular classroom setting. TD registers can be adapted for use in secondary education as processes of idea generation and imaginative tropological transformation in lessons structured to invite collaborative and autonomous negotiation and speculation. In this use of TD, the pupil, can become an "an agent of knowledge making as well as a recipient of knowledge transmission" (Bruner, 1986, p.127).

I have made this distinction between register and genre for practical purposes in terms of TD acquisition in the school context. But it is important to realise that neither the genre or the register have immutable forms because their use "makes possible new ways of representing" (Wells, 1999, p.272). This I have shown in the transitional practices of some architects. This use of new modes in the transitional process is one way to de-automatize performance which has 'fossilized' after the stage of operative control. This is a process of 'restoring competence,' as Vygotsky states, but at an earlier stage, it is also a process of de-centering which produces new approaches. The teacher's role here is also important in stimulating the pupil to de-centre and disrupt processes which have produced fixation, very often by showing the student a new register of TD which expands what we call the pupil's 'tropological space'. I shall return to this at the end of this cycle.

On the problem of transferring expert knowledge to the classroom, Shweder states that it is 'no coincidence that those who study expertise do not equate the mental with the abstract. Instead they interpret the mind as it is embodied in concrete representations, "in 'mediating schemata',

'script', and well-practiced 'tools of thought' " (Shweder, 1991, p.98). Schweder makes the point that understanding of the experts' knowledge and skill can help foster the progress of novices and even 'expand the proficiencies of experts'. I shall return to a comparison of the transitional processes of writing and those of TD. Glaser, talking about the writing processes of students, states that 'revision is where the real work goes on' and points to the key feature of this work as "...an interplay between the analysis of text features and the student's store of knowledge about revision strategies and currently attainable goals" (Glaser, 1999, p.95). I believe it is the strategies embedded in the concrete representations of TD registers that can help the novice 'see what needs to be seen' and enter the game of the 'forth-coming' of process.

In terms of introducing expert practice into the classroom, Glaser suggests that "an organized sequence of increasingly complex forms of pattern recognition tasks, associated with their procedural meaning might be developed in sequences of instruction" (ibid, p.96). Also important to Glaser is self monitoring: students reflecting upon their learning and teachers making "explicit such processes as produce alternative courses of action... (and students)... asking such questions as: what am I doing now? Am I making progress?" (ibid, p.98). We might add, 'Is this working'?; 'What else might work'? What Glaser terms 'Principled Performance' entails the acquisition of "organized knowledge usable for thinking" (ibid). Glaser places great emphasis on the Social Context of Learning which he relates to Vygotsky's Zone of Proximal Development (ZPD) "where learners perform within their range of competence while being assisted in realizing their potential levels of higher

performance"(ibid, p.99). Just as Shweder states that the mind of the expert is 'embodied in concrete representations' so the Practice, Self monitoring and Principled Performance of the student take on an 'overt, observable status' in social, collaborative context of the ZPD, a concept which will play an important role later in this cycle.

'Thinking onto paper'

From our early school days we are asked in a variety of subjects to work in rough or in draft form and because this involves presencing, absencing, multi- modality, dispensibility and a passage of provisional states I shall group these activities loosely under the heading of multi-mode transitional processes. Pupils are asked to work in rough, from the belief that working in rough, by inviting further thought, produces better end products because it allows for a process of development and modification, but also because it involves students in a 'hypothetical mode' (Wells, 1999), that encourages experimentation, inquiry and the students' active construction of understanding. Working in rough is something teachers often take for granted that students can do without assistance, partly because they believe that they disinhibit the students by the exhortation,'work it out in rough'. However, as I have tried to show, working transitionally is a complex higher order function, and a complex prosthetic device, in which dispensibility is an important feature of its instrumental efficacy.

When I collect the rough work of examination candidates after a stint of end of year exam invigilation, it is apparent that working in rough, and very often in multi-modes, is to some extent acquired by most

students without their having to be taught. Most of us can, to some extent work in rough. In terms of drawing what is it that most adults can do transitionally? I make a point of observing adult drawing activity in informal settings. What most people can do is sketch out the plan of a flat or a house and draw a route map. Interestingly both of these, at some point, have involved dialogic interaction. We can all do it because we have learnt some rudimentary graphic conventions and have used them or responded to them in dialogic interaction.

My daughter, in her IB science courses, was required to keep a rough notebook where she should put down all her ideas in whatever way she liked, to show how she developed them. No one did this, she told me, but instead worked them out on rough paper and then transferred them neatly into the rough notebook. However, as the student of a particular chemistry teacher, she had begun to use the rough notebook in the way required because the teacher had sat down and worked things out in rough with her and other students, in the book. The teacher had had extensive experience in industry before becoming a teacher and was working the way practitioners work. This is what Smith (1982) describes as demonstration which produces 'engagement', an engagement produced by the reaching out for understanding.

But what about writers and their transitional drafting processes? If we accept the theory of social acquisition of higher mental functions as preceding internalisation and autonomous use, then we must ask what the dialogic situation was in which they acquired their drafting processes. A possible answer to this is that it derives from 'marking' modes in education. Throughout schooling writing is 'marked'. By this we mean the

use of indexical signs like crossing out, bracketing, circling, comments in the margin etc., all performed intermittently by the teacher on the student's text or paratext and often in dialogue with the student. I suggest that this mark making is internalised, changed and appropriated by the student and becomes the genesis of the drafting processes used in writing; indeed, of many of the functions on the word processor.

Transitional drafting processes

One of the major tasks of the teacher of transitional processes is to:

"...stage manage a context of joint action which 'calls out' what in some sense we can already do, and thus to help us recognize how to call it out for ourselves" (Shotter, 1993, p.94). From what I have read on drafting processes, the use of multi-modes is certainly of great interest to educators in this area. For the purposes of this thesis I have looked at the work of two authors on what I shall describe as transitional writing processes in education: Smith (1982) and D'Arcy (1989). My main focus will be on the work of D'Arcy because she places some emphasis on the use of multi-modes. But neither Smith nor D'Arcy pay much attention to the role of rhetorical figures as vehicles of innovation in processes of writing and re-writing, resorting instead to a 'functions of the brain' approach. I have emphasised that the creative performance of drawing exercises a continuous influence over thought. The drawing is not the result of a receptiveness of the drawing hand to already formed ideas but organizes and experiments on the basis of tropes, templates for innovative action embedded in language acquisition. Brain structures and

their functions suggest things 'going on in an inside' in relation to things 'going on in an outside' and the other way around, but the concept of inside and outside are mere figures of speech. The unified movement of consciousness which Tallis (1999) talks about problematizes cause and effect in terms of some underlying extra linguistic structure such as brain functions because if, as Derrida claims, language is essentially figurative and rhetorical, then it is not brain structures which will help us to understand creative thinking processes but a study of tropes. There is, as Wheeler states:

"...no before or outside language... we construct the world, self and consciousness in and by language, in rhetorical and figurative language, so that self and world are tropes or figures of speech, understood, that is, as results of language" (Wheeler, 1993, p.212).

The emphasis of D'Arcy on involving children in their own thinking processes is incompatible with her theoretical recourse to brain structures. As Tallis states:

"Intelligent behaviour requires knowing what one is doing or trying to do. It is impossible to explain how the automata that are mobilized in service of those ends are requisitioned without reference to that context... Nothing of what we know about the brain, or indeed, of what we are likely to discover about it using present research paradigms...would explain ..the unified moment of consciousness" (Tallis, 1999, p.149).

I believe that D'Arcy's and Smith's choice of brain functions as the basis for their ideas is in part due to the influence of expressionist theories which set up a dualism between expression and the stylistic and semiotic analysis which a tropological approach to process would involve.

However, having said this, both D'Arcy and Smith place some emphasis on the role of the supplementary memory device, (the journal, the notebook and so on) and Smith actually mentions the importance of what he describes as 'disposable writing'. Both place emphasis on getting things out onto paper and the central difficulty of getting children to appreciate the malleability of writing. D'Arcy actually echoes Leonardo da Vinci's advice on compositional process when she states that "children need to feel they can play around with it (writing) and try things out, without worrying over much if their intention doesn't work out in the way they expect" (D'Arcy, 1989, p.21).

D'Arcy takes up the most difficult feature of introducing transitional processes to children. It is the attitude adopted by children of wanting to get a task 'over and done with' and, as I have mentioned above, her solution is to get children interested and involved in their own thinking processes, in meta-cognitive activity. The TD, like a piece of process writing, provides the teacher with something tangible, because visible, something to respond to in terms of a dialogue about ideas and orientations to future action.The teacher is what D'Arcy calls 'a partner in a learning dialogue'. The teacher's task is to provide a framework and introduce some conventions and strategies which enhance the child's ability to 'think onto paper', and this is exactly what we believe the teacher's role is in the TD process. I would agree with D'Arcy in stating that the main motivation, or as Smith would say, the main 'sensitivity' to TD, comes when the child experiences the power that the process has to sort out ideas. D'Arcy also states that the kind of pedagogy she is advocating involves a multi-mode approach to writing. "Our mental

capacities for shaping meaning continually interrelate, making use of whatever media happen to be at hand - verbal, visual or kinetic" (ibid). She makes the point that our research has also made explicit that different transitional processes have different modes of dominant expression but are open to the use of modes other than the dominant one.

D'Arcy deals briefly with the drawing mode in writing. In process, writing drawing is used as a shaper of meaning, just as writing is used as a shaper of meaning in TD. She even comments that when words are used with drawing in this way they change their character and become very condensed. She identifies the 'holistic' nature of drawing and our ability to take it in at a glance. But later she side-steps some of the implications of the drawing mode for process writing and instead looks at the use of Buzan's (1993) 'mind maps' which are essentially linguistic, with a limited use of other signs. Harste and Short (1988) have a short section entitled 'sketch to stretch' which states that pupils "should be helped to to see that shifts in communication systems help learners gain new perspectives and insights" (Harste and Short, 1988, p.356). But in general they use drawing to 'recast' something which has already been written and not as an integral part of the compositional process.

The learner, for whom TD acquisition produces a habit change and who chooses to use TD or use drawing in another transitional genre like drafting (which is what many writers seem to do; see Fetz and Kastburger (eds)., 1998) modifies 'the situation in which they act'. In the social context, which I suggest is the only effective way to acquire this way of working, participants enjoy interpretive freedom within a gamut of interpretations. At the same time, the drawing enables participants to

guard against the aberrant interpretations which can arise from only spoken communication and spoken communication is used to clarify what has been drawn.

The art/ design context in Secondary Education

I have looked at what I describe as TD in relation to the following Curriculum and course guides: the National Curriculum (NC) Syllabus for Art and Design for England (2000); the Cambridge International General Certificate of Secondary Education (IGCSE) Syllabus for Art and Design (2000); the Oxford,Cambridge and RSA examinations (OCR) General Certificate of Secondary Education (GCSE) Art and Design Syllabus (2000); the OCR Advanced Subsidiary and Advanced GCE in Art (2000) Approved Specifications; the London East Anglian Group GCSE Guide entitled 'Ways of Working' (Bailey and Read, 1990); the International Baccalaureate Middle Years Programme Arts Guide (2000) and the International Baccalaureate Visual Arts Guide (2000).

My overall impression of all of these course guides is that the emphasis on 'self expression' has given ground to a move towards an emphasis on the generation, exploration and development of ideas and its central role in making art, craft and design, the importance of investigating other works of art as a way of extending pupils' ideas and their own work, and the role of dialogue and collaboration in making art; and that expert practice has become a recognised way of introducing the idea of art as productive labour into the classroom.

It is beyond the scope of this study to produce an in-depth analysis of these courses which could only be done effectively in relation to the

whole set of transformations of the relation of art education to the differentiation of socio- economic and symbolic orders on the lines of Efland's 'A History of Art Education' (1989), which places trends in Art education into a socio-historical perspective. All that can be done here is to outline some components of the above programmes which a greater emphasis on Transitional Drawing processes could develop and enhance.

In the UK National Curriculum Syllabus for Art and Design (2000) Key Stages 2, 3 and 4, 'exploring and developing ideas' is a component of central importance and is explicitly linked throughout these stages to 'investigating and making'. In the development of ideas, the role of 'starting points' is emphasised and "working with others through collaborative projects...(and) negotiating ideas and tasks" (ibid, p.9). The teaching of "codes and conventions and how these are used to represent ideas..." is mentioned but aligned to knowledge and understanding rather than practice. In Key Stage 3, the role of 'working drawings' and the pupil's acceptance of "re-working (without the need to use an eraser)" as 'good practice' is mentioned (Key Stage 3, p.6). In Key Stages 3 and 4, the thinking skills involved in art and design focus upon reflection on the learning process, 'problem solving strategies' and the role of "co-operative learning and discussion"(Key Stage 3, p.15). At each of the eight attainment levels, the exploration of ideas, the collection of information to help pupils develop their work and social interaction are stressed.

In the OCR Cambridge GCSE Art and Design Syllabus (2000), the first 'Coursework Component' involves 'the ability to investigate, explore, modify, develop, and realise ideas' (ibid, p.7) and in the Areas of Study a multi-mode 'overall response' is encouraged to the assessment

objectives. In the Cambridge IGCSE (2000), the 'workbook' is mentioned as an integral part of work in nearly all the Areas of Study and in Painting pupils are expected to use a sketchbook to make visual researches and to develop their ideas. In the assessment objectives, the ability to 'express ideas visually' and to show the 'development of ideas in series of rough layouts or experiments which lead to a final solution' is mentioned. In the Specification Aims of the advanced GCSE courses in Art and Design, the development of 'intellectual, imaginative, creative and intuitive powers', understanding of connections across the fields of Art , Craft and Design and the use of art as a cultural resource in the development of pupils' own work are stipulated. In these courses, there is a strong emphasis on sustained research in 'visual and other forms'. The assessment objectives I have condensed from page 6 of the Specifications place emphasis on: the recording of ideas, observations and insights; the analysis and evaluation of images, objects and artefacts; the creative development of ideas and sustained investigation; and personal response and connection with the work of others. All of these could, I believe, be better attained through acquisition and use of TD registers.

The GCSE guide entitled 'Ways of Working' by Bailey and Read (1990) is a process based approach which thinks of both process and product as artefacts. This guide calls upon teachers to encourage students to become "aware of what it is they do more or less as they do it" (Bailey and Read, 1990, p.9). There is also an emphasis on the student's acquisition of 'work habits'; they call for 'design based' methodologies. These approaches are said to have an 'in-built thinking structure' which is "transferable across the whole spectrum of art and design activity" (ibid).

They and I belong to the same church here. There is an emphasis on historical survey which is closely related to the register of TD I have described as transferential drawing. They have difficulty articulating what they see as the importance of dialogue between teacher and student, and call for teachers to devise ways this can be made accessible to evaluation. In this connection they emphasise the role of the teacher as an expert with an 'educated awareness' which they state "is often all that is needed to develop a good student into an outstanding one"(ibid, p.20). The concepts of 'apprenticeship' and dialogic interaction in this approach are implicit, though not clearly stated.

In the objectives outlined in the the International Baccalareate Middle Years Programme (IBMYP) Arts Guide (2000), there is mention of both exploration and group discussion as ways of developing 'artistic potential'. Knowledge is seen as consisting of 'facts that the student should be able to recall to ensure competence in the subject' and in relation to the arts is based on "demonstrating aspects of knowledge and applying appropriate terminology" (ibid, p.3), indicating the absence of a conception of knowledge as constructive. However, the Guide provides a 'creative cycle' for the arts which are divided into performing and visual art. Initially the creative cycle, which is also confusingly referred to as the 'design cycle' at one point, comprises four stages: sensing, planning, creating and evaluating. The stages of the 'creative cycle' are related to 'Generic Activities,' with the difference that 'sensing' is inexplicably exchanged for 'investigating', an activity which is seen primarily as observational. Although no mention is made of generating and developing ideas in the cycle, this aspect is implicit in the Developmental Workbook

(DW), the purpose of which is to 'encourage experimentation and critical thinking' as well as providing "the opportunity for reflection" and "a source and stimulus to dialogue" (ibid, p.12). I suspect that the effort to create one, non-prescriptive guide for all the arts and for a wide international audience has produced the conceptual flaws which are evident in this Guide and which culminate in the statement that through experience' of the cycle, as applied to the different arts, students "come to appreciate themselves as developing artists and not simply as creators" (ibid, p.15). In the International Baccalaureate Visual Arts Guide (2000), there is an increased emphasis on 'collaborative exploration', and the Guide states that "students should be allowed and encouraged to work collaboratively in the studio, reflecting a common strategy of art professionals" (ibid, p.9).The Guide also suggests that the research workbook should show "evidence of teacher-student dialogue, student-student dialogue or other collaborative strategies for responding to entries should be included" (ibid, p.10) and it states that "exploratory work should be done in consultation with the teacher" (ibid, p.8). There seems to be implicit in this a separation of 'dialogue' and other 'strategies'. Nor does the use of the phrase 'response to entries' further the cause of dialogue, as it suggests a one-way transactional situation. While the guide talks about the collaborative as a 'common strategy of art professionals,' it does not portray this collaboration as involving primarily a combination of drawing and talking. It would greatly benefit both teachers and students if this were made explicit and formed the basis of consultation with the teacher and collaboration between students, as the Guide makes explicit that any other form of collaboration will be assessed on an individual basis.

Towards 'a new type of pedagogy'

Abbs, in one of his earlier books (1982), places great emphasis on "the first vulnerable, exploratory stages of art making" (Abbs, 1982, p.55) and he even suggests that at times some classes should only concentrate on the process of idea generation and development. He sees this phase of work as 'problematic' and he uses examples from expert practice in different fields to emphasise the need for 'combinatory play.' He quotes Bowra on Pushkin's speed and abundance of creative process but neither he nor Bowra mention Pushkin's frequent use of drawing within his paratext. He uses one of Henry Moore's transformational drawings as a parallel from the visual arts. Abbs states that:

"We have to develop sober exercises, settled procedures for promoting a free traffic over the bridge between the conscious and the unconscious...We must fashion subtle means of drawing up the *prima materia* which only later we can refine and complete and present to others" (ibid, p.100).

Eisener, in one of his early works on art education, states that "the teacher acts as a potentially powerful model for providing students with examples of what people do in the field of art" (Eisener, 1972, p.182) and one of the primary things that people do in the field, whether art professionals, designers or architects, is draw and talk in the collaborative context. The kind of dialogic interaction between pupil and teacher which TD involves and which both the NC, the GCSE and the IB want to encourage in Art and Design studies, is what Eisener would call, "the type of productive behaviour that represents inquiry into the making of art" (ibid). Eisener called for "an opportunity for students to see a teacher

seriously engaged in the type of work he would like to help students learn to enjoy" (ibid). But, interestingly enough, Eisener only saw this as providing the opportunity for students to 'see' teachers 'do what they teach'. My research is based on the hypothesis that one very important thing that artists and designers 'do' is TD, and that this drawing has a social dimension which can be transferred, with modifications to the classroom. This must be done by teachers with pupils and between pupils in order for it to be successfully learnt at all. Thus the teacher has to 'do' TD with or in the presence of the pupil as part of a dialogic exchange in response to an immediate task or situation or, indeed, to an entry in the pupil's research workbook which, in its turn, will call forth a drawing/talking response from the pupil. It is this speech and drawing multi-mode object which would make the teacher-pupil and the pupil-pupil dialogue accessible.

In Abbs' view, part of the problem in education is the emphasis on abstract rather than concrete thinking through metaphor, images and touch. He states, "We need forms, structures, exercises, methods: an A to Z of a new type of pedagogy"(ibid, p.102).These recommendations are a modest contribution to the direction they outlined, which I believe has gained some ground in recent years.

'Heeding' and the *maieutic* disposition

Most research on dialogic interaction is about the development of writing. The contributors to Freedman and Medway's book on genre and Wells' book on dialogic inquiry all talk about writing as the focus of dialogic interaction. However, there would seem to be some inherent

difficulty in talking and writing at the same time. In the TD process, drawing can be done by all participants on the same piece of paper or on transparent overlays, leaving traces of the dialogue as it emerges minus unessential details. This produces an interpretation which can be immediately returned to the 'other,' creating a line of thinking which can be shared as it unwinds. It is not necessary for participants to go away and read something and then return with their ideas. Ideas are presenced and shared on the spot, while at the same time leaving a trace of the turns the dialogue has taken.

Although speech slows down and becomes fragmented in TD, it can nevertheless accompany the drawing without any breaking off, which is much more difficult in speaking and writing. Unless we are proficient at shorthand, or fast and concise note takers, it is difficult to create, even process, text at the same time as speaking and even were this possible, we could not take in at a glance where we are and where we have been. In terms of the teacher-pupil dialogue, this produces something which is uncommon in education. In this process, the teacher is involved in a hypothetical mode as much as the pupils. The teacher is not just informing the pupil nor does he or she have all the answers, but rather both the teacher and the pupil are negotiating possibilities. Both ponder the drawing which has been done and the words which have been uttered; both are involved in thought, reflection, elaboration, explanation and ideas of combination and modification.

In all transitional dialogic processes, we must heed what is said. In TD, we must heed what is drawn, what is said about what is drawn and what is drawn instead of said, but we must also heed the use of other

modes, the moment when the spoken word is written upon the paper. Heeding is essential to what Fiumara (1992) calls the *maieutic* process or the birth of thought, in which transitional processes play the part of the midwife.

The amplitude of creative thinking is often reduced as Bakhtin states:

" ...to the unitary plane of a single consciousness and it is within the unity of this single consciousness that the event is to be understood and deduced in all its constituents" (Bakhtin, 1990, p.87). In dialogic collaborative activity, the principle of *Phronesis* is in operation. This principle does not involve us in a concept of heeding as the merging of the consciousness of participants but on the contrary, as Bakhtin makes clear, in the:

'intensification of one's own outsidedness with respect to others, one's own distinctness from others; it consists in fully exploiting the privilege of one's own unique place outside other human beings" (ibid, p.98).

TD does not become a 'pure' expression of the subject but an expression of a relationship to the other. The validity of what is drawn is for the self *and the other.* This is what Bakhtin describes as 'transgredience,' which produces an 'enrichment' and is 'transfigurative'.

According to Piaget, at each stage of development, conceptual schemes and tasks are reinterpreted according to a new structural whole. He describes four of these levels of which two are of particular interest to us; the period of concrete operations between seven and twelve; and the stage of "propositional or formal operations" after twelve (Silverman,

1987, p.227). Silverman points to the linearity of the picture Piaget gives us of cognitive growth, where knowledge is assimilated into a rigidly linear system of transformation and compares this to the reiteration and recurrence present in Sartre's concept of cognitive growth. In order to articulate this difference more clearly, Silverman resorts to the analogy of overpainting. I shall change this to the analogy of TD. In this analogy (as in the analogy of overpainting) each stage of development is likened to overdrawing or partial absencing of the previous transitional stage, that is nevertheless formative of the individual's growth and therefore, in some sense, present. Just as in the TD, the individual can change direction, producing a new totalization. But this process is not exclusively linear, in that in the reorganizations of totalisation, repetition, reiteration and reaffirmation all have a place.

According to Vygotsky, any function in the child's development appears on the stage twice, on two planes, first on the social plane and then on the psychological, first among people as an inter-mental category and then within the child as an intra-mental category. We ask pupils to work in rough, and although we seldom place this activity in the social plane, we expect it to take up direct residence in the intra mental plane. My belief is that use of multi-mode transitional processes in both the dialogic and autonomous context enrich the child's *maieutic* disposition which is dependent upon 'heeding' what she herself and others have said and drawn, and what is suggested should be done. Perhaps the centre of gravity of dialogic drawing is what Heidegger calls 'being-with- one-another'. .This is not an "indifferent side-by-sideness...but rather an ambiguous watching one another, ..a 'for-one-another and an 'against one

another" (Fiumara, 1992, p.115). It comprises a 'restlessness of curiosity' which Fiumara states is "the very basis of proper relational approaches". In TD, this 'restless curiosity is coupled with heeding in producing "a directness or anticipation of a situation which is beyond the present one" (Silverman, 1987, p.243).

'Getting to know what others have done and how they did it'

I have been using what I describe as TD in my own practice as an artist and in teaching for more than twenty years, but it is only in the last five years that I have been experimenting with children's acquisition of TD as a classroom genre. At this stage, while I saw the value of what, at that time, I termed 'developmental drawing', I did not link its acquisition to dialogic interaction. My approach at a conscious level had always been an initial 'how to do it ' which involved showing examples by artists and examples of best student practice, and explaining the need for suspension of closure and provisionality. At IB diploma level, as the course progressed, it became apparent that some students used this form of drawing and others much less so. I now consciously make use of TD on dispensable surfaces in conversations with pupils, and at the IB Diploma level, I have begun experimenting, in the first part of the course, with the use of the registers of TD to generate and develop ideas. This is done in such a way as to produce exploratory links, both to studio work and to more formal research and, at the same time, it provides a basis for teacher-pupil and pupil-pupil dialogues which become 'entries' in the research workbook which take the form of a multi-mode speech/drawing objects.

In both this course and lower down the school in the age groups, equivalent to Key stage 4 in the National Curriculum, I have developed schemes of work which approach the 'investigation' component, that cuts across all the courses mentioned. This is based on a very similar approach to Sage's transference of Barthes' (1994) five 'Interpretive Codes' (Sage, 1998). Sage suggests that the five codes that Barthes applies to Balzac's story 'Sarrasine' can be used in the art historical context. In this transfer, 'écriture-lecture' or writing-reading becomes 'écriture-vue' or writing- seeing. In Sage, sign making activity is confined to writing. Working along the same lines for the secondary school pupil, I produce 'écriture-dessin' or writing-drawing and in the collaborative context, talking. The pupil becomes the operator of the codes and the three different modes of writing-drawing-talking. I will describe the codes in order of initial introduction into my classroom practice, but stress that I do not use the terminology of the codes but rather terminology more accessible to secondary school pupils. The 'Proairetic code' deals with the narrative content of the work of art under investigation. This involves the pupil in a written and verbal description and transferential drawing which reproduces the main arrangement of forms. The 'Semic code' is restricted, in my classroom practice, to the identification in writing and speech of the theme, place etc., and is often accompanied by comparative studies, aspects of which are also drawn. The 'Cultural code' identifies knowledge structures in the work of art in terms of composition, use of media, positioning in a corpus of the artist's work, in a movement and a period. This involves drawing to understand compositional elements. The final code is the 'Hermeneutic code' which involves intensive and fre- ranging

drawing by the students in order to 'see' and 'grasp' the work, both to comprehend and to appropriate, as a means of extending and developing their own ideas. Drawing activity is combined in this code with a written and verbal exploration of meaning and personal response. In museum and exhibition visits, students choose their own point of entry in terms of the codes. What this approach produces is a multi-mode investigation which enables the pupil to acquire the vital transferential register of TD in one of the main contexts of the expert practitioner. The drawing, writing and talking throw into relief *how* the work of art offers meanings in terms of its signifiers and, at the same time, brings out the 'elusiveness of meaning'. The prime aim of this approach is practical reflection: to get to "know what others have done and *how* they have done it" (Abbs,1982, p.16). This operation of the work of art produces a reciprocity whereby "the present roots itself into the past, the past flows, renewed into the present" (ibid). Such activity cultivates, in the process of investigation and appreciation, "attitudes to drawing that have been, and are, cultivated by designers (and artists) in creation.." (Thistlewood, 1990, p.23). The approach should always be viewed as training for the pupil's own independent thought and work. As Seneca stated:

"To know is to make each thing one's own, not to depend on the text and always look back at the teacher...let there be a space between you and the (work). How long will you be a pupil? From now on, be a teacher also" (in Nussbaum,1994, p.346).

Thus this approach in secondary education is less concerned with scholarly appreciation, which is what Sage is after, and more with a dialectic between what Bourdie, (in Robbins, 2000, p.57) calls 'art

competence' and 'artistic competence'. "The degee of art competence of a person is... to be measured by the person's capacity to appreciate the artificiality of artefacts so as to be able to demonstrate artistic competence" (ibid, p.58). To look at TDs is one of the main ways of developing 'art competence'. Acquiring and employing registers of TD in the generation, exploration and development of ideas is one of the main ways of developing 'artistic competence'. The practice and experiental exercise of TD extends the pupil's creative power. This extension of creative power rests squarely upon the pupil's "lived out sense of artifice and construction" (Willis, 2000). The pupil becomes internally aware of artifice in the active and then operative exercise of TD, and uses it to work out possibilities and to make 'ever new re-orderings of personal signification'. Thus the lived out and embodied sense of artifice and construction includes the construction of the self rather than its expression as some kind of finished inner synthesis. The activity of transferential use of works of art develops a sense of wider cultural positionality and outside formation of the self.

With a little help from their friends

The IBMYP for the arts, like all other areas of the curriculum, must address what are described as the 'Areas of Interaction' (*Homo Faber*, Environment, Health and Social Education, Approaches to Learning). It is important to state here that *Homo Faber* is defined, in the glossary of terms in the IBMYP Arts Guide, as "concerned with the products of the creative and inventive genius of people and their impact on society"

(p.49). In the main body of the Guide, the purpose of *Homo Faber* (as an Interactive Area) is:

"To develop opportunities for students to appreciate the human capacity to invent, create, transform and improve the quality of life. *Homo Faber* stresses the ways humans can initiate change and examines the consequences' (ibid, p.15). (For a discussion of *Homo Faber*, see Pigrum, 1996). The conception of *Homo Faber* in the IBMYP seems to have undergone a change in the past five years towards product and appreciation, and away from a process-oriented conception. I shall now describe an approach which actively involves the pupil in the appreciation and use of the cultural resources produced by *Homo Faber.*

The socially acquired disposition to use TD, with its particular historical and cultural development, constitutes it as one of the prosthetic devices used by *Homo Faber* to generate and develop ideas. I shall now illustrate how TD can be linked with the interactive area of Approaches to Learning (ATL), in a way which involves all of Vygotsky's levels of genetic development mentioned earlier, by briefly describing selected aspects of the experimental work I do with pupils in the first year of Secondary International Education (age 11-12) (equivalent to Key Stage 2 in the National Curriculum).The pupils are divided into two classes, each of which take part in a tri-semester option of two, two period lessons in a six-day cycle.

My role as teacher builds on Vygotsky's :

'....concept of the *zone of proximal development,* in which child development is viewed as a social activity with children participating in activities beyond their competence through the assistance of adults or

more experienced peers... Through such social guidance, children are presumed to gradually internalise the skills that were practiced with adult support so that they can be performed independently and find ways to promote learning that is specific to where each learner is and to where she needs to be' (Rogoff, 1991, p.67).This role is summarized in Mercer and Fischer's three stages of scaffolding (in Wells, 1999, p.221) which:

"(A) enable the learners to carry out a task that they would not have been able to manage on their own; (B) to bring the learners to a state of competence which will enable them eventually to complete such a task on their own; (C) and provide evidence of the learners having achieved some greater level of independent competence as a result of the scaffolding experience".

The first lessons involve an active rediscovery of TD as one of the prosthetic devices Homo Faber (man the maker) has developed in order to generate and develop ideas. One of many experimental approaches involves a comparison between some mechanical drawings from the notebooks of Francesco di Giorgio and one by Villard de Honnecourt of a water wheel which, because he did not possess the drawing conventions of the Renaissance artist engineer, appears flattened out. The class discusses the differences between these two drawings and related themes such as energy sources, the use of notebooks as a way of storing and transmitting ideas, workshop practices and so on. Then the primary function of scaffolding as 'task induction' takes place and the students learn how to 'rough out' free hand, and in oblique view, various geometric components which can all be used to re-present Honnecourt's drawing using spatial practices which are used to this day and which originated in

the workshops of the Renaissance artis- engineer. This re-presentation is set up as a problem which the students in the class attempt to solve in groups. This is preceded by a good deal of drawing of basic components during which the students are encouraged to overdraw and draw from all sides of the paper, as well as an exploratory and inventive approach to the forms being taught which involves the use of objects as illustrations of the components. At this stage, students do not draw from observation, as the aim is the acquisition of a rudimentary drawing 'language' which will facilitate inte- mental communication, although some reference is made to the world of real objects. They are, however, encouraged to 'invent' with the forms as they are introduced and mastered and to provide assistance to other students who are having difficulties. The teacher enters into dialogue and drawing with the pupils, providing them with the help they need to overcome both the conceptual and manual difficulties they encounter. The emphasis is upon the mode of drawing called 'sketching' and the movement which is characteristic of the sketching hand. This movement is the micro level of transitionality in that the sketched line is only a passage towards a more fixed line and can always be changed and improved, is always a tentative 'working towards'. Sketching subordinates detail to the whole. The sketch is the 'half said'. The imagination supplements the deficiency in detail. Lebensztejn, in his absorbing essay on the blot and the sketch, states "that by allowing white spaces to remain in the representation it creates the sketch draws away from iconic representation and draws closer to verbal description", because "verbal description can be more or less detailed, but it always leaves something to the imagination of the listener or reader; and the same goes for the

sketch" (Lebensztejn, 1988, p.142). Thus even at this micro level the trope of *Nonfinito* and the dialectical of negation as absence is employed.

Getting a concept of sketching across through words and demonstration is the difficult initial prime task of the teacher and is what Vygotsky describes as the 'loan of consciousness' that gets the child through the ZPD (in Bruner, 1986, p.132). The nature of the TD task is somewhat in advance of the developmental stage of the pupil and I have often observed that the manual skill of sketching and the mind set or habit change it produces is a key contributory factor in getting through the ZPD as it applies to TD. Vygotsky states that pupils who can learn "under teacher guidance or in collaboration with more capable peers" (in Bruner, 1986, p.73) to adopt the sketch mode of drawing can sort out their thoughts and think things out in a way which avoids premature closure and which allows them to undo the process at any point and start again.

When everybody has acquired the basic forms and most pupils have begun to sketch, we discuss, with the aid of a very simple model, the problem of Honnecourt's drawing in terms of 'seeing what needs to be seen' in order to build it. Thus the re-presentation of Honnecourt's drawing becomes an 'enterprise' involving a combination of dialogue and drawing. This is essentially a *Homo Faber* approach to learning which is made up in these early stages of using TD as a prosthetic device in guided 'reinvention'.

TD graphic conventions are not new. They are what Bakhtin would describe as 'relatively stable and normative forms' based on some shared understandings. The paradox is that, as Smith says of writing, "it is only because conventions exist that new things can be said. Without

convention, how could one ever be unconventional?" (Smith, 1982, p.62). The point about drawing conventions is that they permit us to take in information quickly. What matters, as Smith states:

"...is not the convention, which can be learned quite quickly especially if placed in an engaging context, but the 'implicit agreement' behind the convention" (ibid).

This is the base line of dialogic interaction. The conventions merely enable us to make sense of what we produce for ourselves and for others in our use of the TD registers. Once acquired, or as Bazerman states:

"Once the dynamics begin to unfold, the best I can do is watch where they are taking us, so that I can improvise most appropriately and creatively to allow these dynamics to fulfil themselves. Only then will the deepest and most useful practice emerge" (Bazerman,1994, p.30).

In the kind of unfolding which takes place in TD, individual pupils make inventive use of the drawing which is then disseminated to the whole class as something they might try. As Eisener states, "students can provide really good ideas about possible learning activities" (Eisner, 1972, p.181). The student who produced the drawing is empowered to show how he or she did it and assist other students to do it. This is essentially what Bruner called 'calibration': the matching of the sense a pupil makes of something with those of the teacher and the other pupils. Over the years, student initiated problems have become a central component of my schemes of work. I have found that, as Cooper and McIntyre state, "pupils find transformations of teacher input facilitative of their own understanding and learning" (Cooper and McIntyre, 1996, p.103) .

Another more recent approach, and one which has a built in link to language signifiers, is to introduce basic conventions and transitional activity by providing the pupils with a few key letters of the alphabet reduced to half circles, triangles and rectangles. In small groups pupils try to compose the rest of the alphabet. This initial activity stimulates a great deal of dialogue and transitional drawing. The forms of the agreed upon alphabet are then drawn in oblique view and subject to combinations that produce rudimentary architectural forms. Another approach is to break down into simplified forms a variety of culturally specific architectonic forms and involving the pupil as quickly as possible in dialogic interaction, interspersed with opportunities to work autonomously. Subsequent work is based upon drawing architectural forms. One component here is designing a pavilion, which is a basic architectonic structure with variations in almost all cultures, and which involves links to the Interactive Area of Environment with an emphasis on the natural environment. Much of the work at this level develops a view of environment as both natural and built. Emphasis is placed on the local cultural environment, not only its buildings, as a source for transferential drawing, but also the cultural environment of the school and the classroom, particularly the work space of the art room with its distinct practices, procedures, materials and techniques. This approach contributes, in the area of the arts and *Homo Faber*, to a view of education which "is responsive to and discursive of the physical environment but which also promotes critical environmental literacy..." (Stables, 1998).

The students do much of their transitional drawing in a 'developmental notebook' which is used across the arts options, forming a

kind of interdisciplinary archive (see also Pigrum, 1993). I point out to students that notes taken by the teacher in the lesson, and the initiatives gleaned from them and from other sources, go into a notebook identical to theirs. This is a valuable and tangible support when explaining the way the notebook can be used, its multi-modality and that both pupil and the teacher are involved in a collaborative exploratory enterprise. To intensify and practise drawing in a social collaborative context in the final phase of each tri-semester, groups work on the enterprise of drawing a city. This covers four A3 sheets of drawing paper and involves a further dialectic between the natural and built environment. It produces an awareness of buildings as our biggest works of art and design and that, unlike a painting or a sculpture, we have to live in and with them in our daily lives. It provides an intensive student generated way of practising basic conventions, registers of TD and collaborative group work. It would be possible in the future to introduce into the class both an architect and a city planner providing "contacts (which) open up a wide range of possibilities which enable students to move outside and beyond..the classroom" (Taylor,1992, p.6). (See also Taylor, 1991and 1996). The level of dialogic interaction and drawing is very high and there is a strong sense of ownership by the group. In order to reinforce this aspect, students draw on all sheets within a group. I have observed two primary modes of exchange of words and drawing; one involved a very subjective and the other a strategic, detached position in which a suggestion is made which might be a solution but which the pupils are not subjectively committed to. The first mode would seem to be related to individual

preferences and experiences and the second to an approach to the possibilities present in the drawing from a detached view point.

Perhaps most interestingly, I have observed that weaker students seem to improve their drawing skills faster within the group than if given personal attention by the teacher. Few groups identify a leader at the end of the task. Almost all groups take ideas from their developmental notebooks, the ideas of other groups, their own cultural backgrounds, objects within the workspace and resources made available in the class, including shapes of different sizes and materials. Figures 57 to 60 are examples of student TD in the age range 11 to 12. Figure.57 is an example of overdrawing. Figures 58 and 59 are examples of the employment of combinatory strategies and repetition with modifications. Figure 60 is a pupil's development of skateboard ramps now included in my schemes of work.

Of particular interest in the most recent group work was the use of a piece of scrap paper to explore and discuss ideas.The daughter of one of my informants, Vander Weele was in one of these groups and although she was not a strong drawer she was the person who quietly coordinated much of the work and also collected and brought back ideas from other groups. When I told her mother at a parent conference about this activity she replied 'just like her mum'. I have found that as Bennett and Dunne state pupils involved in cooperative group work of this kind "take on more responsibility for their own work and the management of their groups" (Bennett and Dunne,1994, p.166).

The main problem of group work is how to choose who is in the group and the group size. The optimal group size would, on the basis of

my own experience and on the research available, be four. Two is company, three leaves one out , four is a team and five splits the group into two camps. How groups are constituted is very problematic but crucial to the success of collaborative work. I remember putting four very disruptive boys in the same group. This produced a great deal of argumentation and even erasing of each other's work, but the outcome was one of the most innovative. One way that Bennett and Dunne suggest is to start off with groups of two and then put two pairs together. This gives the teacher time to look at the way different groups are operating. It also combines, in the first instance, an element of free choice with an element of teacher management. Complete free choice produces uneven groups with all its attendant problems. What is indispensable is regular plenary sessions in which the groups get an overview of their own and the work of other groups. This also introduces the idea of looking at what other groups are doing to get ideas. Initially this is met with circumspection, but when the purpose of this is explained as one of sharing and adapting but not copying ideas, it becomes accepted practice. (For group work see also Barnes and Todd, 1977-1995). In the same frame of mind, pupils go to the museum pencil in hand to ensure that looking is active, producing something which can be carried away in an external memory device. This is the crucial lesson learnt from the transferential drawing practices of practitioners. It is also an approach which through the work of Taylor (1992), has in recent years displaced, in my own practice, the 'protective awe' approach which excluded the influence of cultural artefacts in an effort to confine pupils "inside the bubble of their own indigenous creativity" (Taylor, 1992, p.vii). At the

same time, we should not produce a reverence towards canonical works but be emphatic about the need for distance and critical autonomy: a position which is enhanced by seeing the work of others as a way of developing personal agency and directions, of seeing the museum as the 'house of the muse' where we go to get ideas and inspiration to keep the dialogue going.

What I have described here are some of many ways that the teacher in the classroom can provide the social context for the acquisition, internalization and appropriation of the prosthetic device of TD as the beginnings of a disposition towards the creative task of learning and as a means of pointing, showing and saying which enhances the solidarity implicit in the process of collaboratively seeking solutions. I have described an approach to TD in which the pupil has the opportunity to work out an idea autonomously in a lesson which is an exercise in collectivity. In both these attunements, language and drawing generates, develops and transmits ideas and constructs knowledge. The negotiative, reflective and detached approach to language and drawing in the TD process engenders a sense of the construction of the self. Taylor writes "a great deal of human action happens insofar as the agent understands and constitutes him or herself as an integral part of a 'we' " (Taylor, 1992, p.52).

There can be no question of a simple transmission of TD or some underlying formula of 'how to do it'. As Nussbaum implies, we should only give our students an 'outline,' a 'sketch' of transitional procedures which they then fill out through practice in terms of their character and experience. However, this does not mean that once pupils have acquired

the rudimentary process, they should be left to their own devices. For the teacher, TD is what Bourdieu would call an implicit pedagogy which instils ways, or rather rhythms, of working. This is particularly important in a transitional processes which involves complex injunctions such as; 'sketch things out roughly'; 'use many light guidelines'; 'don't worry about drawing over the top of what you have already drawn'; 'if you like an idea, circle it and go on'; 'if you can't draw it, write it'; 'if you don't like an idea, just leave it and go on'. This is what Bourdieu would call 'values made flesh' and these 'values' are internalised by the student and take on the forms of personal creative agency. These values are part of TD acquisition as a 'semiotic apprenticeship' (Wells, 1999). In terms of classroom TD activity, there might appear to be a contradiction between the preservation of TD in workbooks and the disinhibiting function of dispensability. However, in the acquisition of TD in the early stages of secondary education, it is suggested that modes of dispensability such as overdrawing, cancellation and multi-mode use should be encouraged. The requirement of a workbook in most courses prevents the use of radical negation or destruction. However, I find it useful in the diploma course to encourage students to draw on random pieces of paper which are 'to hand'. This is disinhibiting, while at the same time providing pupils with a workbook entry.

Future research, aimed at evaluating the effects and significance of TD for pupils, would continue to be based on understanding constructed through investigation of expert practice in tandem with classroom practice. In both spheres, research would focus upon TD activity in the collaborative and autonomous contexts. The internalisation

of TD from the social external context requires opportunities for pupils to engage in long periods of quiet reflection and practise. Even during group work, I have observed that most discursive activity takes place in the initial phases and only sparodically during the actual work of drawing. I frequently take notes of student discourse and as I move from one group to the next, I often have to wait a long time before anything is said. On entering my classroom during group work the overall impression would be one of silent absorption in the drawing process. Future classroom research would attempt to evaluate the significance of TD for pupils on the basis of discourse analysis of what Barnes (in Wells ,1999) described as 'exploratory talk', but with an emphasis not only on what is said, but what is drawn as well. But, as indicated, an equally important focus would be to interview individual pupils about TD in progress and subject this to interpretation and analysis. Thus the focus of future classroom research would be on ideas which have been modified and improved by the employment of tropic strategies and strategies of presencing and absencing, recursive reflection and revision as an indication of the extent the pupil has extended his /her 'tropological space' and the impact this has had on the quality of finished work. In other words, research into TD in the future would focus on TD as an 'improvable object' and a 'thinking device'. Another focus would be to collect and collate information from other areas of the curriculum to ascertain where and to what extent the pupil has been able to transfer and adapt this 'thinking device' to other learning activities.

Transitional drawing as 'semiotic apprenticeship'

The TD spatial representations in the various genres have a generality which facilitates communication between practitioners. This produces a view of the 'habit change' involved in the use of TD by practitioners as by no means antithetical to individual development and creativity. I have come to the same conclusion as Vygotsky and Wells that cultural reproduction and individual development and creativity are dialectically interrelated. This interrelation is based, I believe, on the different types of abductive reasoning which cultural artefacts and individual use represent. Schillermans states (in Caesar, 1999) that Peirce would describe 'cultural reproduction' as undercoded abduction and creative abduction as the only kind 'that introduces new ideas in our thinking'. However, creative abduction and individual development "is only possible through full participation in a communicative practice" and this in turn involves what Lave and Wenger (in Wells, 1999, p.242) describe as "the appropriation of cultural resources by means of which those practices are mediated". The creative abductions in TD are made possible by the provisional, tentative and indeterminate nature of the drawing practices. These permit a multiplicity of possible developments. This indeterminacy is, however, not antithetical to the achievement of higher goals.

What I believe has been overlooked in the controversy between what is seen as the limiting influence on the child of cultural reproduction, and the freedom of what Kristeva described as 'self effect', is that, in a cultural resource such as TD genres, changes have taken place produced by what internalization processes have put back into TD at the

phylogenetic level. This has produced very abbreviated forms of drawing, such as I have described as transpositional drawing but also the highly idiosyncratic unwindings of transformational drawing and so on. I would suggest that these have extended the range of TD and its proximity to the way external speech is abbreviated in 'thought'. The acquisition of TD is the acquisition of a sign tool which is closely related to creative abductive thinking. What its acquisition enables us to do is to put a material sign into the external world and undo it and do it again until we have obtained what Eco, after Peirce, calls the 'Dynamic object' which can only be known through an 'Immediate object' (Caesar, 1999). The Dynamic object would be, to use the words of Eco, 'the *terminus ad quem'* of the semiosis of TD.

Bruner, in one of his earlier works (1966), places great emphasis on the role of 'prosthetic devices' or what we might describe as Immediate Objects, in human development and education and, along with Mead and Vygotsky, the role of dialogue in learning. It is interesting that, in this connection, Bruner also has recourse to Socrates' slave boy found in both Popper and Ryle. Bruner mentions in this connection what he calls 'inventions' that help in learning by dialogue such as the written note which becomes the focus of a reflective dialogue as the words are pondered. Bruner echoes Vygotsky when he states that "we know too little about the use of the notebook, the sketch, the outline, in reflective work" (Bruner, 1966, p.21) and he goes on to say that "one source of self consciousness in intellectual development consists of an awareness of notation in terms of which we have encoded experience". Finally Bruner states that '"I do not think we have begun to scratch the surface of

training in visualization" (ibid). In Bruner's terms, TD would exemplify an 'optimal structure' used "for simplifying information, for generating new propositions and for increasing the manipulability of knowledge" (Bruner, 1966, p.41). If pupils can use the registers and classroom genres of TD, they can 'render permeable' the barriers between drawing, speech and writing in a way which shadows this permeability in the world of practitioners who use TD processes.

It is interesting to note that Bruner identifies one of the main predispositions of cognitive activity as the "predisposition to explore alternatives" (ibid, p.43). It will be recalled that Herbert (1988) described the main function of the architect's sketch as one of exploration, and that it was in this context that Herbert saw the sketching activity solely in terms of tropological transformations. Bruner describes three aspects of explorative behaviour: 'activation, maintenance and direction'. I equate these with the operations I have identified as 'presencing', 'keeping the dialogue going' and the towardness or 'forth-coming' of TD. Bruner also identifies uncertainty and ambiguity as playing a vital role in the explorative process .

From a Vygotskyian perspective, "the cultural resource that has been developed becomes ... when mastered, the semiotic means that mediates the mental activity of individual knowers" (Wells, 1999, p. 277). Thus TD which operates as a cultural artefact is, at the same time, a tool in the service of the higher mental functions. Once acquired, as Vygotsky states (in Wells p.280) it "alters the entire flow and structure of mental functions. It does this by determining the structure of a new instrumental act,.." that becomes a bodily disposition to act in a particular way. Artefact

and tool are at the same time signs and, as Eco (in Caesar, 1999, p.112) states, "the repeated action responding to a given sign becomes in its turn a new sign...giving rise to a new process of interpretation". TD is sign use which as Vygotsky states is "a means of influencing others and only then a means of influencing oneself" (Vygotsky, 1991, p.37). Thus in its internalized form it is equated with reflection and, as such, constitutes a higher mental function. The acquisition of TD produces what Peirce describes as a 'habit change', involving either a transitory or permanent change in our way of acting within the world. Once we have acquired TD as a 'disposition,' then we become one of those people who use drawing in many forms of communication, one of those people who seldom talk without at the same time drawing on 'whatever is to hand'. This is a disposition which enables agents to find ways through their own and other people's ideas without being constrained to act or think in predetermined ways. This, it must be emphasized, is not confined to artists, architects and graphic designers. Anecdotal evidence would seem to suggest that many scientists have the same 'habit'. A personal acquaintance of the author, a nuclear engineer, invariably draws in a diagrammatic mode when talking face to face about nuclear science and energy. An American laser scientist told the author that wherever scientists get together informally, they sit around drawing and talking. Another acquaintance, a playwright and director, stated that he could not think without drawing, as the margins of his scripts bear witness. It is interesting that Wells, whose whole emphasis is on dialogue and writing, recognises that his arguments could be applied to other semiotic systems. Like us, he clearly sees the 'functional complementarity' of writing and speech to other semiotic

systems, although he nowhere identifies drawing as having this complementarity. Wells also mentions Kress (1997) and states that the 'optimal text is mult-modal'.

In some significant ways, an approach to learning as a 'semiotic apprenticeship' is anticipated in Hirst's 'forms of knowledge' (in Warnock, 1977). I do not see TD as a form of knowledge building which is concerned with the truth but rather as Hirst sees knowledge, in terms of 'shared conceptual schema' based on the 'testability of assertions' even if 'the test is against experience'. TD could be seen as a kind of meta-subject that Hirst referred to. Warnock emphasizes the danger of the 'second order subject' but this is the same danger which exists for skills based education if the skills are not taught as part of the acquisition of habitus and engagement with the field. Warnock raises the problem that acquiring a cultural resource like TD as a disposition produces cultural repetition rather than cultural innovation. I believe I have shown that TD can be used as a competence which is transferable between cultural resources without sustaining a hierarchy among them. In other words, it can be used to explore and appropriate different cultural resources. This does not in its turn produce cultural repetition because, as I have described earlier, the doing and undoing, the indeterminacy and the presencing and absencing inherent in TD, immensely enhances the complex processes of subjectivity and intersubjectivity which produce innovation. At the same time, the effectiveness of TD will very largely depend on the teacher's ability to 'scaffold' the learning process and to adopt a transactional approach to the teacher/learner situation.

The 'good enough' teacher

I believe there to be a complementary relationship between Winnicott's 'potential space' (hereafter PS) and Vygotsky's concept of the 'zone of proximal development' (ZPD). In potential space, 'mental contents' exist in a psychological space that starts off as interpersonal and only later becomes intrapersonal. This is achieved through the destruction of the 'mental object' of the mother/child entity allowing the child to achieve 'I' enunciation. Both Ogden and Winnicott describe 'I' enunciation as achieved by means of the the 'other' which, in the case of PS, is the 'good enough mother'. In Vygotsky's ZPD, the symbolic function is acquired in the social context, that is in interaction with the 'other' and internalized to produce personal agency. In PS, co-existence precedes individual existence and in the ZPD, talking and thinking with the other precedes autonomous thought.

The role of imagination which Ryle gives central importance to in all creative thought is the result, according to Ogden, of the transformation that purely projective fantasy undergoes when it is brought into PS. It is, as it were, what happens to projective fantasy when external reality as 'other than me' takes the floor. This does not mean that fantasy disappears from the stage, but that PS is the scene of a dialectic between fantasy and reality, me and not-me. Thus PS is a growing into a dialectic between inner and outer and vice versa and ZPD is growing into the intellectual life of those around us (Ogden, 1992,1994). The activity in both 'spaces' can be characterized as a 'grasping at' that which is just beyond our reach within a holding environment which provides us with assistance to overcome psychological and semiotic insecurity. Both

spaces resist a concept of closure, and it is surprising how close Vygotsky's remarks on strategies for resistance to closure are to those of Leonardo da Vinci on compositional drawing.

On a tram journey, I watched a child use the transitional object of a hand puppet (a zebra) to talk to his mother who, although she was present beside the child, was treated as absent and her place taken by the puppet. Dialogue with the real mother in this process came under the full manipulative control of the child who played both parts in the dialogue. The intellectual life around a child consists very largely of dialogue with the other and the dialogue with the self. The mother in my example was allowing the child to practise dialogue with a symbolic transitional object that displaced her. This is an example of the opportunity created by the 'good enough' mother for the child to separate from her by an act of positive destruction involving the use of the transitional object, but also to be able to return to the holding environment of the mother. Thus the 'good enough' mother's role is to be there when the child needs to relieve the psychological insecurity engendered by 'I' enunciation and by separation from the world by the acquisition of the symbolic function. The freedom from projective fantasy which this entails is also, as Lacan states, a necessary separation from that which is not me. Thus the role of the good enough mother is to provide the holding environment which provides for the development of the symbolic function and, at the same time, for a degree of psychological security during this process.

The ZPD is involved with the acquisition and development of the symbolic function. Here many 'others' play a role as the child is now in a much broader social context. The symbolic function has now become the

acquisition of semiosis. In this zone, the teacher's role is similar to that of 'the good enough mother' in that what the child experiences in this context is semiotic insecurity and the overcoming of this insecurity is the key factor in the guidance which gets the pupil through the ZPD. The teacher is there to both promote and, when necessary, to relieve this insecurity. This is the role of 'the good enough teacher'. But this role cannot be separated from what Cooper and MacIntyre state is the pupil's:

"...sense of self worth; and the belief in one's ability to take on and contribute to the resolution of problems.This requires an emotionally supportive environment in which the learner feels valued and respected by the "significant others" (teachers and pupils) with whom he or she is expected to interact in the learning process" (Cooper and MacIntyre, 1996, p.97).

Both the role of the 'good enough' mother and the 'good enough' teacher involve centring the child in a holding environment and decentring the child in the direction of the acquisition of the symbolic function. This is not an even linear process but involves a particular view of the function of failure. Winnicott, Evans and Bachelard are all interested in 'temporary and specific failure'. Bachelard's concept of active failure is of greatest interest. Failure avoids closure and premature solutions or completeness. Bachelard (in Jones, 1991, p.173) states, "Incompleteness is openness, possibility, progress...it is also the discovery of the unknown in both subject and the world." The registers of TD allow for this dual discovery. The failure of TD to reach closure or completeness is one which 'initiates more work'. The step which has failed is just the next step and failure, if seen in a positive way, produces

an increase in awareness. "Defeated you will use your (hands) again. Undefeated you will have nothing to say but more of the same" (brackets are mine) (Martin, 1992, p.71). This active failure is also an integral part of the drawing/dialogue situation. As Evans (in Bruner, 1986, p.63) reminds us, "even a failed effort to refer is not just a failure, but rather... it is an offer, an invitation to another to search possible contexts with us for a possible referent". The 'good enough teacher' must carefully monitor this active failure.The learner produces this failure, the sense of 'this doesn't work' and is therefore in control and if she cannot find a way forward alone then others, but primarily the teacher, are there to assist. Thus, from the holding environment of the good enough mother the child moves to the supportive and facilitating environment created by 'others' in which teachers figure prominently.

The role of the 'good enough' teacher is to help the child 'loosen knots' and so move forward. What I believe has been neglected in a concept of 'tutoring' is the insight that both Winnicott and Kress make that to 'loosen the knots,' we need to utilize "the child's multifarious communications" (Hughes,1989, p.129). In this context, I have talked about the multi-mode nature of TD and its role in the dialogic context but this is not to underestimate the role of autonomous use of TD. Winnicott talks about the basic experience 'of being alone in the presence of the mother', something which our anecdotal example of the child and the zebra illustrated, and states that without this, the capacity to be alone is never achieved. "Thus the basic capacity to be alone is a paradox; it is the experience of being alone while someone is present" (Hughes, 1989, p.134). In the classroom situation, TD is used by the child 'working' alone

in the presence of the teacher and other pupils. I believe this working alone in the presence of the teacher engenders the capacity to work alone. In the dialogic situation, the great failing of all teachers at some point in their teaching is what Winnicott, (in Hughes, 1989, p.143) states is the failing of the analyst; by interpreting what they have understood and thereby "acting according to (their) own needs, thus spoiling the (pupil's) attempt to cope" (brackets are mine). This is surely the essence of the tightrope walk the teacher must perform in the child's ZPD. It is a balancing act which is helped if we are constantly aware of our role in the pupil's development and is exemplified by the TD process where the teacher, like the analyst, tries to encourage the pupil to avoid 'premature formulations' which lead to closure, and instead tolerates 'unclearness'. In the dialogic drawing situation, the teacher becomes implicated in the unclearness, the 'forth-coming' quality of the drawing and the active failure of the pupil without cutting the knot, but rather scaffolding the pupils ability to unravel it by herself or with a little help from her friends. TD is an activity which facilitates this and chronicles it as it is going on.

Wells makes the observation that Vygotsky's ZPD is not an attribute of the individual learner but rather "a 'potential' for his or her intra-mental development that is created by the inter-mental interaction that occurs as the learner and other people co operate in some activity" (Wells, 1999, p.25). Neither PS nor ZPD involve us in concepts of physical space but, like the words 'mind' and 'imagination', are a means by which we can represent our own receptivity and ability to co-construct knowledge. Thus we interpret both PS and ZPD as concepts based on a

view of the "path from object to child and from child to object as passing through another person" (Vygotsky, 1978, p. 30).

This brings me back to something I have struggled with throughout this thesis: the suggestion, inevitably produced by language, that there is some kind of passing from the outside world of social interaction to the inside of a learner's mind and vice versa. Wells is of some assistance here when he states that the difference between the higher mental function in the external social context and its internalisation is not a 'spatial separation' but a reciprocal interplay between social and autonomous use. A better way of describing this recipricocity is found in de Man's (1996) characterization of the move from cognition to action which produces a material trace on the world. This is a passage, de Man states, from the trope, which is cognitive, to the performative, to the making of a mark. This passage, or transition, is not one, nor the other but "the passage from trope to performative" (ibid, p.133). It is here that we get closer to a concept of TD as neither outer nor inner but as a passage in which one is reinscribed within the other and so on. The trope is what the agent uses to persuade and influence others in the external situation, in terms both of speech and the performative act of drawing, and the same means are reinscribed in the use of TD to influence the self. In this process, a change has taken place and the TD is now a disposition, personal agency, and with this hallmark it is returned to the world of the interpretive discourse community in which it was first acquired. Interiorization itself is a metaphor for a material manifestation "which is the outside of an inner content which is itself an outer event or entity that has been internalized" (ibid, p.100). We will now look at a curriculum plan

to approach this from another direction, based on the understanding that on the microgenetic plane the learner 'grasps at' TD but she does not grasp and internalize it all at once.

Curriculum model

The aim of this section is to present a curriculum model (see Fig. 61) which represents stages of TD acquisition in which the learner moves from 'active' to a level of 'operative control' of TD. I use the IBMYP and

TRANSITIONAL DRAWING CURRICULUM MODEL FOR SECONDARY INTERNATIONAL EDUCATION

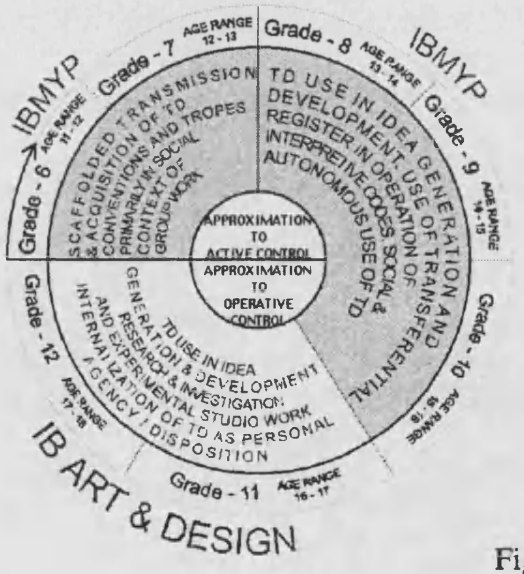


Fig. 61

the IB here as a case of TD acquisition but, as I have already suggested, this model could have relevance for the NC and the GCSE and doubtless, many other curricula. The diagram represents a three stage process: in the first stage there is a scaffolded transmission of TD conventions which could be used by the pupil in other areas of the curriculum where drawing is involved. An example of this would be freehand oblique and axonometric view. This would simultaneously involve practice in

tropological moves to generate ideas and to keept the drawing going. At this stage, a great deal of the drawing activity would be in small groups and of a transactional and explorative nature with an emphasis on 'doing and undoing'. In the next stage, the pupil would acquire active control of the register of transferential drawing employed in ther interpretive codes and use this material in the explorative and transactional register of TD in the autonomous and collaborative context. In these first two stages, the Developmental Workbook would be a main vehicle of the drawing process. In the third stage, the pupil would be introduced to the transformational, and later to the transpositional, register. Registers would be used in idea generation and development, research and investigation and would constitute the basis of teacher-pupil dialogue. In this stage, drawing would be done on dispensable surfaces in a social context and in the pupil's Research Workbook in the autonomous context. Throughout all stages, there would be a constant emphasis on TD as a process of the 'forth-coming' designed to 'see what needs to be seen' and on 'doing and undoing' as a way to 'go on' in the face of ill-defined problems. Opportunities should be created for pupils to experience and work with the openness of TD to the Real, to multi-mode signification and to the Imaginary as that 'something which will always be of importance to us'.

It will help to look more closely at this model in terms of the gradual process of Internalization. A closer reading of Vygotsky (1986) produces the understanding that the process of internalization does not involve the transfer of something outside to an already pre-existing inside but is the very process by which the plane of consciousness and bodily dispositions

is formed. In terms of prior learning, I have observed in my own teaching context very little prior learning which supports the multi-mode TD activity. Ideally a pre-school model based on the ideas of Gianni Rodari and since developed as the 'Reggio Emilia Approach', Edwards, Gandini and Forman (1998), and a primary education based on Dialogic Inquiry approach described by Wells (1999) would provide a background of prior learning eminently suited to the acquisition of TD. As things are I have observed a marked difference between the speed with which pupils in the last year of primary education pick up the main concepts of TD and those only one year younger. By the time pupils have reached eleven, it would seem that their existing knowledge includes some idea of spatial representations, which facilitates the acquisition of TD although their understanding of sketching as a probative activity is incomplete. Wood suggests that this incompleteness, "is at the heart of what Vygotsky termed the 'zone of proximal development" (Wood, 1991, p.106). This suggests that TD is related to a particular developmental stage. While I realise that in theory the National Curriculum is based on attainment levels, Key Stage 1 in the National Curriculum would certainly seem to provide a basis of prior learning conducive to the acquisition of TD in terms of its emphasis on the exploration of ideas. The programme of study states:

'That teaching should ensure that investigating and making includes exploring and developing ideas' and that "during the key stage, pupils should be taught the knowledge, skills and understanding through;

(a) exploring a range of starting points for practical work...

(b) working on their own, and collaborating with others..." (NC, 2000).

The curriculum model (Fig.61) outlines an approach to internalization as a three stage process that can be compared to something like translation. Here I take liberties with an idea from Steiner (1976) in his book on the translation process. In the first stages, and in the external social situation, TD is first a 'reaching at' and grasping activity on the part of the learner, a movement of *orexis* which 'grasps at' comprehension and involves a level of 'active control'. In the last two years of the IBMYP, this becomes an incorporative movement, involving increased assimilation. Already in this phase, there is a relocation of TD away from the original pattern used in the social learning situation towards more autonomous use. This relocation is the beginning of the process which leads to TD becoming 'operative' because at this stage a distortion of the original pattern takes place which heralds the creation of TD as a new entity that has only a metaphorical relationship to the original. In the IB context, TD becomes progressively 'operative'. In this way, the original form of TD used in the external context gains rather like a translated text, from "the orders of diverse relationship and distance established between itself and the translation" (Steiner, 1976, p.296-301).

This description of internalization allows us to break down classroom genre into 'action genre' and 'operative genre' (Wells, 1999). TD is an action genre as long as students are using the registers in a way which involves them in careful attention to the construction of their drawings and in the need for further practise. It becomes an 'operative genre' when the activity of TD has produced a 'habit change' in which TD

is used in its own right and as a dispositional response in certain situations, both dialogic and autonomous. Thus it is my belief that TD should be acquired as 'registers' of action in a social context which later, through practice and internalization, become operative at the level of autonomous use. This approach to the internalization of the external allows us to side step the concept of something outer ending up on an inside by perceiving the process of Internalization as that which ends up on the outside again.

Figures 62 to 70 are, with the exception of Figure 63, TDs by diploma students in the 17 to 18 age range who have acquired operative control of TD registers. In my experience, operative control is closely linked to the various forms of dispensability of the TD process I have described. Figure 62 is an example of mult- mode repetition with modifications. Figure 63 is a TD by a 9th grade pupil (age15) in preparation for a painting based on a market scene. The dispensability of the drawing is apparent in the meeting times she has jotted down beside the drawing. Figure 64 is a transferential drawing produced by a diploma student. Figure 65 is an example of the use of acqua fix where the pupil has written about her use of this material on the initial drawing. Figure 66 shows a drawing with two superimposed layers of acqua fix with personal memos which show through on the initial drawing. Figures 67, 68 and 69 are examples of transformational drawing done as displacement activity during a history and a maths class. These generated exploratory TD leading up to finished work that, at a later stage of development, incorporated both linguistic and mathematical symbols. Figure70 is an example of the initial generation of ideas for a sculpture in which elements

from one idea are incorporated into the next and so on. All of the above figures have been reproduced from the pages of pupil workbooks.

Central to our model are three points which Cooper and MacIntyre found to be the basis of effective learning and teaching and which are the foundations of their concept of the transactional nature of these processes:

"A belief in the importance of the active involvement of pupils in the learning process; the teacher's willingness to make use of pupils' ideas and ways of thinking in their own thinking about how to make new knowledge accessible; an emphasis on encouraging pupils to construct and share their own understanding during lessons" (Cooper and MacIntyre, 1996, p.89).

The initial learning activity in this model is the acquisition of 'active control' and later 'operative control' of TD by means of a scaffolding of the learning process. Mercer and Fischer (in Wells, 1999, p.221) describe three stages of scaffolding which:

"(A) enable the learners to carry out a task that they would not have been able to manage on their own; (B) bring the learners to a state of competence which will enable them eventually to complete such a task on their own; (C) and provide evidence of the learners having achieved some greater level of independent competence as a result of the scaffolding experience".

For scaffolding to work, initially there must be 'a fit with the pupils' existing knowledge and cognitive structures' (ibid, p.97). In Cooper and MacIntyre's transactional model, there is an oscillation between interactive and reactive teaching modes which I would see as implicit in the model.

The interactive mode is directed towards the attainment of the goals of the curriculum and preset lesson plans, and the reactive mode allows for student concerns and interests to effect a readjustment of teacher's plans. The interesting thing about the transactional model is that it is a 'multi-mode' approach to teaching and learning which does not exclude aspects of transmission but places different modes along a continuum in just the same way as we could place other semiotic modes and registers of TD along a continuum.

Transmission strategies

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Interactive strategies

|

Reactive strategies

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Strategies to facilitate self directed learning

In the phase of 'active control', the 'transmission' of some basic drawing conventions takes place which are necessary for the goals of interactive teaching. This mode, however, is combined with strategies to facilitate self directed learning from the start; in disseminating pupil initiatives to the whole class and incorporating them into a readjustment of lesson plans the teacher operates in the reactive mode. It is important here to realise that, as Cooper and MacIntyre state, the reactive mode creates for the teacher "valuable learning situations that they may not have foreseen" (Cooper and MacIntyre, 1996, p.103). This echoes those remarks earlier in this section about how working together in the dialogic

context creates a third entity which is unforeseeable. The interactive mode serves to filter out 'unwanted foci' which might impede the attainment of objectives. The reactive mode allows for the intervention of *tuche* (see also Pendelbury, 2000). Thus in this model the transactional mode of teaching and learning has clear learning objectives but also allows for a readjustment of lesson plans in the light of student interests and initiatives.

The model is designed to produce a scaffolded acquisition of certain salient competencies: the development of 'heeding' in order to understand the ideas of others and make clear our own ideas and to evaluate solutions in terms of the possible; the ability to draw on previous knowledge and experience, a significant part of which would be stored in a supplementary memory device or developmental workbook, research workbook etc; the ability to hold open a pattern of idea development and to avoid premature closure and to respond to both subjective and strategic considerations; and the all-important ability to use a variety of modes and registers in a solutions approach to art and design.

Finally, this model is transitional and will be modified in the light of more systematic classroom observation and theoretical reflection. The overarching objective of this, and subsequent modifications, would be the pupil's internalization of a disposition towards creative thinking. But, as Barrow and Woods state:

"In terms of promoting creativity, it is not at all clear how one does best promote ingenuity and imagination...there seems no reason to suppose that children will necessarily become imaginative simply because they are free to express themselves" (Barrow and Woods, 1975, p.148).

I believe that creative thinking can be by means of the scaffolded move from active to operative control of the registers of TD. This, I believe, expands the pupils' 'tropological space'. On the other hand, I must state explicitly that TD is neither a recipe for creative thinking, a 'how to do it' nor what Reid (1986, p.7) calls, a "fixed or mandatory set of rules" to guide creative thinking, but rather a socially acquired disposition to 'grasp at' the 'forth-coming' of vague and tentative feelings and ideas which accompany work in art and design.

Some reflections on assessment of transitional drawing

This model is at present nested within the existing curricula and assessment schemes of the IBMYP and the IB. I shall not discuss the assessment procedure which is in place as I have only used IBMYP and IB as a 'case' of TD acquisition. However, I shall look at some of the issues which might arise from the broader orientation toward TD which I recommend. But, because my recommendations are in the context of art and design, I shall very briefly try to clear some ground as to the status of TD in terms of aesthetics.

Throughout this research, I have eluded to the ambiguous status of TD as an aesthetic object or an object of aesthetic appreciation. The problem lies partly in the pleasure we get from the unfinished nature of TDs. This pleasure, according to Lebensztejn (1981), consists in the over supplementation with which the imagination responds to the unfinished and, as we have seen, he relates this to the same kind of imaginative activity that we are involved in when listening or reading a verbal

description. De Man (1997) provides us in his reading of Hegelian aesthetics with an interesting view of the aesthetics of the TD.

De Man develops the argument that Hegel sees the primacy of the material trace as the base line of aesthetics. This material trace is a form of memorization clearly related to the supplementary memory device. The use of this device enables us to forget:

"Once such a notation has occurred, the inside-outside metaphor of experience and signification can be forgotten, which is the necessary (if not sufficient) condition for thought to begin. The aesthetic moment in Hegel occurs as the conscious forgetting of a consciousness by means of a materially actualized system of notation or inscription" (de Man, 1997, p.109).

On this reading, as soon as we presence something in the TD process, an aesthetic moment has occurred because a phenomenal manifestation of the idea has taken place in a process of signification. This can produce a knowing of the signified toward which it is directed.

The question that this throws up for TD is in the two uses of the word 'work' of art which we looked at in terms of Barthes' distinction between 'paratext' and text. That TD is part of the work of art where 'work' is a verb is clear. But if signification is already an aesthetic moment can we justify not seeing the TD as a work of art where 'work' is a noun? At the same time we would have to remember the dispensable nature of TD, involving us in a concept of the dispensable aesthetic object. In terms of transitional writing processes, this is very interesting, as the finished text does not change according to the paper it is printed upon. But the paper upon which the paratext is made can inhibit or disinhibit the process of

idea generation and change in the way I have suggested in my discussion of the dispensibility of TD.

In practical terms, to see the TD as an aesthetic moment would immediately invest it with a 'value' which would render it useless as an instrument of something to be used. After all, what we would most like our pupils to do in TD is to draw without any thought of producing a drawing as a 'work'. If the Immediate Object of the TD can produce a knowing of the signified or the Dynamic Object toward which it is directed, then it will also have what Aspin (1986) called a certain 'intelligibility'. Aspin's idea is that the objectivity of assessment is this intelligibility as a form of communication. In a very real sense the 'use' of TD is based on communicative intelligibility. This is one way we might think of its educational value. If we adopt this approach, then we are assessing its instrumental value, in the way its use "promotes the attainment of ulterior ends" (Aspin, 1986, p.38).

However, not only the problematic of TD as an aesthetic moment gives me cause for caution here but also and perhaps more importantly, this would leave out the crucial role of Internalization. We want pupils to internalize TD and turn it by appropriation into personal agency. This means that TD is 'distorted' by the unique aspects of the pupil's experience and subjectivity and takes on 'a significance for the life' of the pupil. We cannot separate the usefulness of TD or any other subject in the curriculum, from what Kelly called their "contribution to the development of those studying it" (Kelly, 1986, p.118). TD is not isolated from 'existential concerns', nor from dispositions to act, and it therefore changes the way the pupil participates in situations and thus changes the situation.

Somehow we have to produce principles of assessment that reflect the subjective instrumentality of TD in both the social and the autonomous context without encumbering TD with inhibitive aesthetic qualities.

The suggestion I shall present is probative and based on the idea that TD is part of a constant interaction between objects to be known and the activity of the pupil who is trying to know them in a process of 'forth-coming'. This approach is based on three dialectical principles which are as follows: (1) The principle that the TD is related to the final work as part of a visible totality. To 'see' the work of art or design in isolation from its transitions is to deprive the pupil and the assessor of an important source of understanding, and this principle underlies assessment of Workbook entries in the guides I have looked at. In the world outside education, publications on the work of both architects and designers increasingly feature transitional drawing processes (see van Bruggen,1998 and Schmied, 2000). (2) The principle that the TD is a passage of states, of movement which produces observable transformations as a concrete trace of the way a pupil has thought something through. I recommend that the dialogue between teacher and pupil and the resultant speech/drawing object should be done on a dispensable, disinhibitve surface and, where relevant, in multi-modes, and should be preserved to make accessible teacher/pupil interaction and the qualitative change and development of ideas and personal growth of the pupil. (3) This qualitative change is a transformation produced by a complex principle of opposition and coexistence of the subjective and strategic, the cognitive and the performative, and of autonomous and social use. This produces a provisional unity which can be inspected in the process of TD, producing

as well some knowledge of the structure and functioning of the pupil's transitional processes both for the pupil herself and for the teacher.

Above all, assessment of TD should be 'multi-purpose' because we are assessing the pupil's performance in both the autonomous and the social context, both what is produced alone and in dialogue with others. The dialectic approach I have outlined can be used in both the social and the autonomous contexts and would provide a 'descriptive assessment' which would have, as Brown states "the potential to help us understand what, and why, children are or are not learning, and facilitate improved learning" (Brown,1994, p.272),

Beyond 'self expression' and 'skill acquisition'

In the expressive tradition, the emphasis is on inner space and on inner representations. The home of the autonomous subject, as Taylor states, is an 'inner space'. In expressive theories, 'self utterance...the utterance by a solitary consciousness of its own immanent relationship to itself' (Bakhtin, 1990, p.83) is paramount. I do not deny the efficacy of the subjective element in creative transitional process but, like Bakhtin, believe that the subjective can express the agent's 'own cognitive directedness'. In other words, TDs by pupils or practitioners will be determined by some form of general conception which gives us what Nussbaum (1986) calls 'personal continuity'. This continuity is perhaps in part founded upon 'that something which will always be important to us' which Winnicott attributes to transitional object experiences. But unlike expressionist theories, which talk of the self as if it were some inner unchanging essence, this continuity is seen as "continually evolving,

ready for surprise and not rigid" (ibid, p.306). It is *orexis* that marks things out for us and enables us to recognise the relevant features and it is *orexis* that sorts out what will be 'the foundations of action'. Thus, unlike expressionist theory, I do not talk about the expression of feeling. The creative transitional process is a unity of thought and *orexis* , each attentive to the other: "either one can guide and their guidance will be one and the same" (ibid, p. 308).

In order to 'express the self, the self ceases to be what it is in itself' (Bakhtin, 1990, p.69). This echoes the distance which is necessarily constituted between the world and the self by the acquisition of the symbolic function in the work of Winnicott and Lacan. For, while the symbolic function creates our identity, it also imposes from outside forms for expressing this identity, which because they are 'outside' cannot be the same as the self, cannot express the self as some kind of pure inner entity or essence uncontaminated by symbol manipulation. Bakhtin states that "a lived life is incapable of expressing and shaping itself in a culturally determined form within itself' (ibid). Expressive theories, according to Bakhtin, leave out of account the ability to stand outside the creative activity which I have suggested is one of the main attributes of the TD process.

In the expressive account, validity comes from complete emotional submergence in the creative act. There can be no standing outside as this would be to take up a standpoint incompatible with the expression of self or feeling which is somehow seen as synonymous with the expression of self. I am anxious to avoid the kind of mystification which Goebbels (in de Man, 1997 p.154) cultivated when he said "art is the expression of

feeling. The artist is distinguished from the non-artist by the fact that he can also express what he feels". But how are we to understand the role of feeling in TD?

De Man states something very important for our understanding of art as an expression of feelings or emotions when he states that:

"If the aesthetic, in Hegel, is indeed akin, in some way or another, to memorization, then it has little concern for particularized emotion, and any self conscious sentimentalization had better be checked from the start" (ibid, p.109).

Much of what we refer to as feelings in the context of art and design is not 'particularised emotion' but, as Reid states 'feelings about things', of feeling as both "cognitive and affective...as always having a content or an object" (Reid,1986, p.5). Very often art is associated with 'feelings' because these are somehow placed in a static opposition to the rational where the "rational means something logically deduced" (ibid). I have presented a view of TD as being an interplay between abductive reason and *orexis* and between the performative act of drawing and the use of other sign modes. Reid suggests that because of the mystification it entails, we should drop the use of the words 'expression' and 'expressive' and replace them with 'embodiment' as "meaning artistically embodied in the representational phenomena of the art work" (ibid, p.8).

Because of expressionist theory's emphasis on 'self' and 'feeling' as the objects of expressivity, I find it hard not to come to the conclusion that what we encounter here is a nostalgia for the omnipotence and immediacy of projective fantasy. I believe, however, that once the symbolic function has created our 'potential space,' we cannot revert to

projective fantasy. It is 'potential space' which frees us from the omnipotent projective condition and we have no other resource with which to attempt cover over the 'gap', which is the condition of our identity, than symbol use. It is only through some form of symbol use that we can build hypotheses, ideas and projects between ourselves, reality and the other and simultaneously construct ourselves as subjects.

Another constituent of expressive theories is that the axiological category of the other is excluded except as some form of "co-experiencing...of introducing us into the inner world of the agent of expression.." (ibid, p.82). I suggest that the expression involved in TD is fed transferentially by the intensified looking at and drawing the work of others, and of objects in the material world. Drawing enables us to remember something in a way different from mere sensation or perception. It turns the object drawn into a 'thread' which hangs loose but alive, as it were, until more drawing picks it up and weaves it into our present task. The student comes to meet the work of the other from the outside and from the viewpoint of his or her own creative needs. Parallel to the interaction with the active- present 'other' in the dialogic context, we also have the interaction with the object or the work of an absent 'other' toward which we take up an active investigatory and appropriative position. Thus, in a very real sense, the 'work' on the museum wall is in perpetual movement because it is born very often of the changes of transitional process and it leads on, through transferential processes, to other changes.

Bruner (1966) states that "the heart of the educational process consists of providing aids and dialogues for translating experience into

more powerful systems of notation and ordering" (ibid, p.21) and "the principal emphasis in education should be placed upon 'skills - skills in handling, in seeing and imagining, and in symbolic operations" (ibid, p.34). But I would qualify this by suggesting that skills should not be taught separately but as an active construal of meaning within a system of communication. As Smith, quoting the Bullock report, writes "we develop our ability to handle a particular medium as we strive to shape meaning through it" (Smith, 1982, p.7). I have emphasized that TD can only be successfully internalised and turned into personal agency if it is carried out in response to an immediate problem or task which involves the interest and concerns of the student. The problem with an over-emphasis on skill acquisition separated from the active construal of meaning is that skills tend to 'peak ideas'.

If we can talk about skill acquisition in TD, it is the skill of moving from meaning to becoming 'a means', a tool for use in, as Shotter states:

"The making of meanings...in communicative transactions, in the here and now, in the making of sense, which works not so much to communicate ideas (out of my head into yours) but to prompt in us an effective reaction, a sense through which others can feel the movement of our minds, to which they feel they must respond in some way" (Shotter, 1993, p.51).

Shotter calls his communicative transactions "a rhetorical responsive form of understanding" (ibid). The outcome of this interaction with others is 'unintended consequences', "that is, outcomes which are not intended either by you or by me, but which in fact are our outcomes" (Shotter, 1993, p.47). The vehicle of these and other outcomes is the

multi-mode TD. Wells states that the best form of text construction is multi-mode. In terms of learning and creativity why should this be the case? The reason is that, in creating this kind of text, the learner has to consider the interrelationship of modes: in the case of TD, very often the relationship between words and drawing. The public nature and communicativeness of words, and the indeterminate *Non finito* communicativeness of drawing, produce a matter-of-factness and materiality of the transitional process. This displays ideas to detached reflection combined with the 'grasping at' of *orexis* interacting with tropes. The hallmark of transitional processes is, I believe, the passage between performative acts and cognition, "the interaction between trope on the one hand and and performance as positing on the other" (de Man, 1997, p.176). The function of TD as semiotic apprenticeship is to expand and enrich the subject's potential space through a multi-mode, transitional transformative use of tropes producing an expansion of the subject's 'tropological space' in the ZPD and PS through a multi-mode, transitional, transformative use of tropes.

Transitional drawing across the Curriculum

To what extent can TD be used across the curriculum? Once TD comes under 'operative control,' it becomes a disposition to act in a particular way. In the dialogic inquiry approach described by Wells, and based on Bakhtinian and Vygotskyian principles, the inclusion of drawing as one of the modes used in dialogic enquiry can contribute to the creation of what Kress calls the multi-mode text. Wells sees this as the best form of text that can be produced by dialogic enquiry. At present,

some of the underlying concepts of transitional processes are implicit in the guides I have looked at and in the work which is being done on drafting. Not all areas of the curriculum have, as a goal, the production of spatial representations but, as I have endeavoured to show, drawing is an important aid to dialogic multi-mode activity and the 'registers' of TD may well be applicable in learner's dialogue about something which does not offer itself to quick, neat or linear solutions.

In terms of the classroom and school as workspace or 'site', the visibility of transitional practices, including TD, is of great importance. I have never been into a school where samples of multi-mode transitional work regularly accompanied the display of finished products or texts. It is this kind of visibility of the transitional 'paratext' which would constitute one of the necessary conditions for use of TD across the curriculum.

The pupil finds and defines herself at any one time in the social space of the school by reference to a particular 'site' of teaching and learning, of knowledge transmission and construction. I use 'site' here in the way it is used by Foucault according to Ophir, where, in terms of the classroom, the pupil is 'entangled', if only indirectly, "in a web of inter-relations with other sites"(Ophir, 1998, p.243). Each of these sites belongs to a field of signification, spatial practices and representations, transitional modes of thinking often poorly understood, within particular conceptual and institutional frameworks or fields of knowledge. There is, however, no direct defining system that stipulates that pupils cannot use other tools or modes in their approach to the problem of learning. As the computer technology revolution has shown, the relationship between sites and signifying modes can be radically redefined. It is my belief that the

acquisition of TD modifies the perception and action of the pupil within a given site. The capacity of the group of individual to respond to ill-defined problems and come up with a solution will derive from their capacity and ability to adopt strategically adaptive behaviour of the kind exemplified by the disposition to action which I have described as Transitional Drawing.

Some years ago, I initiated a series of 'hands-on' events within the school drawing on contributions from the areas of the curriculum and addressing the themes of: form in nature, the way we perceive the world, and the sign systems we use to interpret and represent the world. Although these events involved a huge number of semiotic artefacts, everything from computer generated chaos patterns to pottery, this constituted only a fraction of the total array produced within the school curriculum (see Pigrum, 1993). On reflection, these events provided a perception of the diversity involved in education as 'semiotic apprenticeship'. The event that I now realise was missing from this experimental series concerned was the ways we go about generating and developing ideas in different areas of the curriculum. What started out as a short-term instrument approach to making the semiotics of the curriculum visible should have been extended to one of how ideas are generated and changed in the different fields of human activity reflected in the curriculum. This is an investigation of both 'individual and trans-individual processes in creativity...', in agency and structure in the past and the present (Pigrum, 1998). Bhaskar (in Archer, 1995, p.148) states, "... nothing happens in society save in or in virtue of something human beings do *or have done.*"

The way forward

The registers of TD I have developed are not definitive but because they are suggested in place of present terminology, I fully expect the question of the heuristic coherence in these registers and the capacity of my account to disclose new dimensions of the phenomenon of TD, to be controversial. My recommendations for education are also at variance with both expressionist and skills based concepts of teaching and learning in art and design.

A weakness of my reserach is that I have no first-hand observation of TD used by professional practitioners in the talk and drawing that goes on in the collaborative context. Thus I have been unable to adequately present the movement of drawing and speech, showing and telling, in a simultaneity of co-existence and interwovenness. Thus an immediate aim for the future is to rectify this inadequacy through participant observation of TD in a collaborative context. This will be combined with more classroom experimentation and research of the interaction between dialogue and drawing.

In terms of both dialogic and autonomous use, I shall undertake reserach into the role of TD in the workspace and relate this to the workspace of the classroom. Dalco and Forster (1998) describe Gehry's office as 'a workshop of forms' and state that Gehry gets his ideas:

"through the gradual layering and sedimentation of visual decisions and tactile manipulations. From an unlimited quantity of forms, Gehry visually and manually selects those that are to be removed from their random state, correlating them, superimposing them, cementing

them together, until the range of possibilities assumes a homogeneous configuration on the plane of his personal aesthetic perception.." (Dalco and Forster, 1998, p.55).

Can we conceive of the 'site' of the classroom as 'a workshop of forms'? More research into the relationship between the artist or designer and his or her workspace will provide us with ideas and theoretical frameworks to conceive of the classroom as workspaces which better enable pupils to engage in collaborative and autonomous creative activity. Linked to this is the aim to investigate how a developed capacity to use multi-modes in one transitional process could influence pupils' ability in another transitional process. Would TD encourage the use of drawing as a supplementary mode in transitional writing, and vice versa, and how does multi-mode transitional activity enhance creative thinking and achievement more broadly?

In terms of teaching, I believe that the concept of the 'good enough' teacher needs to be further developed in the light of Winnicott's and Vygotsky's theories, along with the role that multi-mode TD and talking might have in a much broader spectrum of activities than the ones I have focused upon where the generation and development of ideas is important. The acquisition of TD registers can be of great assistance to pupils entering upon a wide range of specializations in fields of further education. TD could also promote an important generalist foundation for more specialized expertise, that could in turn could facilitate the generation and development of ideas leading to improved products and processes in communities which do not have our technological or economic resources.

It is my belief that TD is intimately and increasingly related to an effective use of computer technology, particularly in design processes. Transitional multi-mode processes take on a whole new significance when seen as the basis for computerised systems of modelling and making or manufacturing. If we see TD as a 'dynamical mobile cognitive style' which can move among modes of signification, its role in education and in the world of design becomes a question of utilising the resources of human attention and creativity in concert with new technologies, and in accordance with social needs and the learning needs of the pupil in the classroom. This implies two research directions: first a broader exploration of transitional multi-mode processes and of the relationship of what Peirce called 'speculative rhetoric' in non-sequential abductive and practical reasoning which I believe to be the basis of TD processes; and secondly an investigation of the knotty question of what TD can do that the computer cannot do but may be able to do, at least partly, in the future.

Both TD and the computer are tools, and tools are subject to morphological change. The effectiveness of the computer as a tool for idea generation and development is far from established, unlike its role in planning and modifying plans. An ever increasing and vast array of artefacts and processes are today modelled visually on the computer. This increase in the importance of the 'visual' produced by the computer is a commonplace. But it still remains unclear to what extent we can do the kind of modelling that we do in TD on the computer, and if we can, what kind of advantages this might have over the pencil paper and work of TD. For example can the computer offer the agent the disinhibitive dispensibility of TD, the possibilities for overdrawing or overlaying, for

doing and undoing? Much research is needed in this direction. Another important issue is the extent to which TD is open to the infinite resources for metaphor construction in relation to 'the real' while the agent using the computer has access to a predetermined world of possible combinations and connections. But the overarching question is in what ways TD could enhance the functions of the computer and in what way the computer can interact with TD to produce better creative thinking and products.

One answer to the first question is to found at the St. Polten School of Designin Lower Austria, which is linked to Kingston University in England where, in the initial design programmes, students learn ways of getting and developing ideas on paper first, followed by targeted computer use. From what I have seen of the results, this would seem a highly effective combinatorial approach: students use the computer for what it is good at. This far outstrips, in terms of time, resources and presentation, what could have been done in the past with conventional tools. They also use pencil and paper for what they are good at, getting and developing ideas in dialogue or autonomously, and then taking the worked out idea to the computer. Approaches such as this deserve greater attention.

There are computer applications which are multi-mode and possess some of the characteristics of transitional processes. Hypertext is of particular interest here because it makes available multi-contexts and foregrounds strategies which allow the agent to follow or ignore 'sign posted' paths and explore different ones. Like TD, it is characterized by a structured flexibility. The computer screen, like the drawing surface, is something on which pictures, words, dimensions and indexical signs can

all co-exist and at different levels. In a very real sense, TD created the multi-modality of the computer screen before it existed.

However, the problematic of face-to-face collaborative dialogic drawing is not one easily solved in relation to computer technology. As Henderson states:

"Because visual practices are so important to problem solving, design engineers find ways to shield these practices from the formalising influences of the CAD/CAM system..." and later "...representations are the product of and resources for situated practice. The distruction of such visually oriented situated practices may occur because of a fundamental misunderstanding of their crucial role in the social organisation of distributed cognition in team design work...When the messiness of the job is finished, it is not the pure logic, clean formulas, or computer-generated drawings, all of which are too often singularly credited in technological achievement...(but) rather, (the) social construction accomplished through the use of rough drawings and sketches ...that get the job done" (Henderson, 1991, p. 467-468).

Jones states that "creative collaboration is perhaps the main challenge of our times" (Jones, 1988, p.224). Part of this challenge must be the collaboration between the creative aspects of the micro computer and transitional processes. Although still in a probative stage, I have begun to do some thinking in this direction and begin to see ways of utilizing the computer in the social context, of enabling agents at work in the collaborative context to invoke the computer as another participant in the 'thinking it through' process, not just in terms of being networked to

the computers of fellow practitioners, but of utilizing the computer as another 'voice' in the generation and development of ideas.

Perhaps the single most important aspect of this research, in the broader context of creativity theory, is the role that dispensibility would seem to play in transitional processes and their multi-mode nature. In future research, I shall explore this and the relationship between the signifier and the subject and agency and structure in greater depth.

Finally, the pedagogical implications of this study can be perceived as part of a wider move in art and design education away from the historical effects of Romanticism. My own debt to Romanticism, in the latter part of this study, is in perfect accord with the dialectical nature of this change process. Of signal importance is Bourdieu's concept of habitus and field in which transitional processes are part of an action system of bodily, as well as attitudinal, dispositions, which place a changed emphasis on the way we perceive the interaction of body and mind. An important research direction for the future would be to further develop the concept of transitional processes as 'schemes of habitus' acquired in a social context and internalized to become personal agency, and the extent to which they can be used across the curriculum to raise the learning competencies of pupils and to enhance their creative thinking.

In this connection, there is a great deal more research to be done on the role of inventive templates based on a renewed understanding of the combination of the trope and dialectic in transitional thinking processes. This is a combination which has been in abeyance for more than three hundred years but which is slowly regaining its relevance as "the world becomes full of potential ways of being and acting, in terms of

experimental involvements which the individual is now able to initiate" (Giddens,1991, p.78).

Derrida, at the end of the essay on Freud's dream work, reflects upon dream work and different levels of writing and calls for research into:

"...the form of signs,...the cathexes of gestures and movements, of letters, lines, points, the elements of the writing apparatus (instrument, surface, substance etc.,) writing as nourishment or as excrement, the trace as seed" (Derrida, 1978, p.231).

This thesis is a response to this call in terms of Transitional processes of drawing .

Postscript

I possess a small fragment of a Pueblo pot which I keep in a drawer in the room where I write. It is probably a fragment from a cooking vessel, judging by its blackened appearance, and is difficult to identify as pottery at all until close examination reveals it as such. A Pueblo would grind this fragment up and work it into some fresh clay from which she would make a new pot, and in this way renew the link to all those who have made pots before her and to whom she is connected by her making activity. Pueblo pottery is acquired and resides, like TD, in social structures and operates through the activities of human agents who acquire generative, pre-existent structures.

This is a relationship which produces both continuity and change because the activities of the agent are, as Bhaskar states (in Archer, 1995, p.147) between "those activities of agents which are exercises of their own intrinsic powers, and those activities which are really powers

which reside in social structures but operate through the activities of human agents".

It will be appreciated that I have just used the Pueblo fragment as a metaphor for the relationship of agency to pre-existent structures. At the same time, I have used the 'fragment' to symbolize the 'putting together', 'drawing near', or 'joining', (which the verb *symballein* originally means) of the agent's relationship to the totality of pre-existent structures. For the Pueblo potter, the material fragment is actually a *symbolon* which, as Sini (in Carrera, 1998, p.57) states is:

"The broken part of an object...The *symbolon* is the fragment of a wholeness that is not or is no longer. Because of these traits, symbol is a very peculiar sign, it 'refers to' *rimanda* (the fragment refers to the still unbroken object of which it is part, of which it is a sign). But unlike any sign symbol does not refer to 'other', to something "different from itself'. Instead, it still refers to itself, to 'the same'. The other to which symbol refers is still itself."

I used the fragment as a symbol sign, a metaphor, but the Pueblo uses the fragment to refer to the wholeness of a pot that is no longer but which, by being included in the clay for a new pot, harks back to an elusive state of unity which once existed.

In Carrera's reading of Sini, the *symbolon* produces another slant on the 'event' of separation necessary to the formation of self identity. Sini's thesis is that the real originary event is the 'pointing out' which produces an awareness of 'presence' and which is a symbolic relation: we are a *symbolon* or fragment "separate from the totality that always eludes us..." (ibid, p.57). The 'pointing out' breaks the symbolic unity and

produces the 'enchantment' of a world which is 'other than me'. It is beyond the scope of the present study to give any more than this cursory account of Carrera's reading of Sini's thesis, but it extends my understanding of the role of the originary transitional object in two ways: according to Carrera's reading, the symbolic would constitute the originary event, that is the part for the whole which is metonymy, and not the 'this as that' of the transitional object which is metaphor. Secondly, Sini's thesis is that there was no initial unity with the world before 'pointing out' produced separation. Sini states "only the fracture between *symbolon's* two parts allows us to hark back to the unity, that in itself, never was" (ibid, p.58). In other words, the only unity that existed was the illusory one of omnipotent projection. I present this here because it is, as it were, the continuation of which my hermeneutical process of emergent disclosure is a 'delay' and because TD activity constitutes the kind of 'pointing out', in terms of both saying and showing, which is fundamental to our "creative involvement with others and with the object world" (Giddens, 1991, p.41). Also, the relationship between the acquisition of TD as a scheme of habitus constitutes the renewal of the habitus and the field through our personal agency. Giddens gives Winnicott's theories a far broader social application than I have done but states that "the practical mastery of how to 'go on' in the contexts of social life is not inimical to creativity, but presumes it and is presumed by it " (ibid, p.41). The two factors: mastery of how to 'go on', in both the drawing itself and the social situation, and TD as the constant reconstruction of 'the narrative of self identity' are what make it a disposition to act, of how to 'go on' in the face of ill-defined problems.

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Appendices

Appendix A

Robert Kanfer

Architect

Born in Vienna 1930.

Emigrated to England 1939.

Educated in the Building department of North Glos.

Technical College in England.

Graduated in 1947.

Apprenticeship in carpentry and joinery and draughtsman in Architect's office.

Returned to Vienna 1951.

Studied architecture at the Academy of Applied Arts in Vienna and graduated in 1957.

Worked in Prof. Schuster's office.

Opened own architect's office in 1962.

Robert Kanfer has designed and built over fifty industrial, public and private buildings and has designed and constructed more than thirty Austrian and international exhibitions. His work includes the Casino in Bregenz and the Hotel Mercure in Bregenz; the Fashion Retail Centre in Vienna; the central store and Head Office of Interio, Vienna; the Austrian Memorial Museum in Auschwitz; the Schöps department store in Vienna; the MGC office in Vienna. He has designed and constructed exhibitions for international companies and national pavilions in Austria, Germany, Switzerland, Luxembourg, Norway, Spain, U.S.A and Australia.

Gerhard Mosswitzer

Sculptor

Born in Steiermark, Austria in 1940.

Attended art school in Graz from 1959-1961.

Awarded the Theodor-Körner prize in 1966.

Moved to Vienna in 1974.

Awarded the Vienna City Prize for Sculpture in 1981.

By invitation produced sculptures in the Fried von Neuman steel works in 1988-1990.

Since 1997 has worked with computerised models of sculpture and experimental music.

Awarded the Josef Krainer prize in 1998.

Gerhard Mosswitzer has exhibited in Austria, Italy, U.S.A, Switzerland, Belgium, France, Germany and Hungary. His most recent exhibiton was in the Vienna International Airport, 2000. There are twenty publications dealing with his work of which the most recent is a compendium of essays on his work from 1962 to 1999. Among his best known works are 'the King and his Game', 1970; 'Monument to the Events of 1934', 1984; 'Queens, Kings and Chiefs', 1992; Frame Constructions, 1986-1990; and Box Sculptures, 1988-1997. Mosswitzer also composes music and after five years of work on the micro computer has recently produced his first digitally designed sculptures.

Prof. Johannes Spalt

Architect

Born in Gmunden, Austria in 1920.

Studied engineering in Salzburg 1937-1941.

Served as a technician in the German Air Force 1941-1945

Freelance architect in Gmunden and Vienna 1945-1949.

Studied at the Academy of Art 1949-1952.

Lives and works in Vienna.

Johannes Spalt is one of Austria's best known architects. One of his bulidings is featured on the front cover of a recent publication of Austrian architecture from 1945 to the present day. He is one of the founding members of the famous 'Workgroup 4' together with Otto Leitner, Wilhelm Holzbauer and Friedrich Kurrent. From 1967 to1975 he was a teacher at the Academy of Applied Art where he later became director from 1975-1979. From 1983-1987 he was Director of the Institute for Interior Design and Furniture. In 1990 he retired from teaching but continues his work as an architect. Among his many architectural works are: The Salvator Church in the Wienerfeld,1979; the Wittman House in Etsdorf, 1975; the Dorint Hotel in Salzburg, 1989; and the Red Cross Centre in Salzburg, 1996. He is also an accomplished painter and furniture designer.

Oswald Stimm

Sculptor

Born in Vienna, Austria in 1923.

Attended the Academy of Art in Vienna from 1946-1951.

Lived and worked in Argentina from 1951-1965.

Lived and worked in Zaire from 1973-1982.

Returned to Vienna in 1982.

Oswald Stimm has exhibited in Austria, Argentina, France, Germany, Italy, Hungary, Japan and Zaire. Among his many awards for sculpture is the Theodor-Körner-Prize 1977 and the Vienna City Prize for Sculpture 1989. He has personally known many of the great artists and sculptors of the 20th century, ie. Alberto Giacometti, Hans Arp, Henry Moore, Alberto Heredia, Torres Garcia, Francesco Marino di Teana and Pablo Serrano. He has taken part in many sculpture symposiums the most recent of which was in Egypt, 2001. Among his best known work is 'Janus head', 1959; 'Salut 11', 1966; 'Hommage to Tatlin', 1967, Salut I, II, III 1972; Wasser Komme,1996; Contrapunto, 1997; Reise zum Mond auf dem Meeresgrund, 1997.

Linda Vander Weele

Graphic Designer

Born in the U.S.A.

Educated at Wisconsin University, Madison.

B.A degree in Public Relations.

M.A degree in Graphic Design.

Worked as a freelance graphic designer in the U.S.A, Costa Rica, Bulgaria and in Austria since 1980.

Linda Vander Weele works on creating corporate images and communications, identity development, design solutions, annual reports and catalogues in print and electronic media from the concept through to the production. Her client list includes: Chicago Symphony Orchestra; the Chicago Board of Trade; British Cable and Wireless; the American Red Cross; the Soros Foundation; Royal Dutch Shell; Futures Industry of America; L.M. Ericsson International; the International Atomic Energy Agency; the United Nations-UNIDO; and the Organisation for Security and Cooperation in Europe.

Appendix B.

A selection of entries from the researcher's fieldwork journals and note books.

Fieldwork Journal. 1

Excerpt from entry of 1.9.97

The interview was conducted just outside Stimm's workshop in an area which at first glance resembled a scrap metal merchants yard; pieces of sheet iron, steel and pock-marked sheets of aluminium, sculptures and parts of sculptures. We sat at a makeshift table on two handmade chairs. To qualify comments about a drawing Stimm would retrieve pieces from workshop. We looked carefully at two sheets of drawing, one from 1956 and one from 1967 and the piece of sculpture that developed from the 1967 drawing...Stimm could not identify the origin of his TD activity. His academic drawing was exclusively from the human figure. His teachers did not draw transitionally...In a 1956 drawing he was not sure whether these cylindrical like figures foreshadowed later work. It would be important to follow up this line: the projections the drawing at hand produces into past work and future work.

Excerpt from entry of 2.9.97

(about Stimm) It was very interesting to note the difference in talk about completed work that was almost always philosophical and talk about drawing process which had the ring of real working activity about it....In my next interview I must pursue following points:

- Technical TDs
- More about drawing in work environment as 'available' objects
- Movement and points of departure
- Distinction between TD and 'doodle'

Excerpt from entry of 3.9.97

Could not find in Kanfer tension between two contrasting directions but instead conflict between his drawing and what he considered 'good' drawing. He was surprised when I wondered why he did not reproduce his TDs in his project albums. Early negative influence of teachers produced this underestimation of his consummate ability to develop ideas through drawing. Some emergent bipolar positions;

- Aesthetic - non aesthetic
- TD - doodle
- Drawing - writing (role of linguistic language)
- TD and memory trace -TD and exploration in the present
- Idea/mental image - materiality of drawing
- Freedom - restraints
- Spontaneity - trope

Excerpt from entry of 4.9.97

(about Stimm) We concentrated on drawings that he described as 'authentic and one which he described as 'concessional.' He elucidated the difference which clarified the aesthetic question considerably and further elucidated the role of the drawing in the studio space and the creative process. He described himself as 'a squirrel who knew where he had hidden his nuts.'

I took photos of the blocks we discussed, a work talked about the day before and one of Stimm seated in the interior of the studio. I sense that Stimm had prepared to take up the interview in the (interior) work space but that I was not ready for this. The next level will take us into the interior of the studio.

Excerpt from entry of 9.9.97

Vander Weele kept notebook by bed, saved all manner of logo material. Was always on the look out for ideas. Described herself as a visual and spontaneous thinker. Very aware of symbols which carried messages. Used also art of any epoch as a resource. Process of dialogue and compromise. Used recycled paper to draw on and normally did not save any TDs. Very business like, gave me sales brochure from her own organization at the end of the interview.

Excerpt from entry of 10.9.97

(about female artist) She saw drawing in terms of insecurity, functional, positive insecurity. Must go over similarities between drawing and text which she felt were synonymous. She used linguistic concepts to break up or through the aesthetic of the work, through what Stimm would call the 'bonito' effect.

Excerpt from entry of 12.9.97

Spalt attributed lightness (in his architecture) to former interest in gliding and glider construction. Was insistent that architectural training should be inter-disciplinary i.e., interior design and furniture design. Thought painting also belonged among the prerequisite skills an architect should posses. Saw drawing as a way of coming to grips with an idea which ideally should be almost complete in the head. At the same time obviously valued drawing and the operation of the hand and mind in unison.

Fieldwork Journal 2

Excerpt from entry of 15.9.97

Went to Mosswitzer. Stimm introduced me. Difficult to approach. Tape recorder sometimes worried him. He did not want to repeat things once said. Showed me around studio and also showed photographs...was not disturbed by probing into creative processes as he did not understand them himself. Spoke with enthusiasm and excitement about intensity of his work processes but then denigrated this work (welding) as tiring, dirty and brutal. Judged quality of work by the criteria of the rapid sketch done in the midst of the work process. Did not always resort to the sketch, however, to improvise next step. Was very interesting in terms of mental image, said it could also be a feeling, even in the body - assumed it was a picture because he could concretize it as such in terms of drawing. No academic drawing training, left Academy after two days.

Excerpt from entry of 29.9.97

Emergent importance of following:

- TD and relaxed absorption

- Backwards/forwards movement
- Complex and contradictory relationship between value/dispensability
- Taking a 'new' road - disruption-digression-transgression
- Overdrawing as *non finito* or for emphasis
- Writing on drawing as reminder, annotation, critique, inspiration, digression, focus of dialogic interaction, etc.

Excerpt from entry 3.7.98

My creative activity and my professional training does not at all coincide or predispose me towards my uncovering of tropic dimension in drawing. Prior to my research my own notebooks provide evidence of an approach which is strongly expressionistic... I suspect that growing disenchantment with my own work led me to question certain basic assumptions. This coincided with an interest in 18th century art and society prior to Romanticism. I began collecting notes for a critique of Romanticism...Finally I rejected all directions related to the Romantic exPressionist aspects of modernism. This act of disavowal was followed by a period of five years in which I did not paint at all but only drew... What I am suggesting is that my own personal creative process and the transitions which it underwent prepared the ground for my research and for my receptivity to a concept of the operation of tropes in drawing.

Fieldwork Journal 3

Excerpt from entry 14.7.99

Stimm: Need more clarification of:

- Ritual
- Things which lie around - bricolage

- Notion of 'less is more'
- The 'seismoraphic' line and the 'incommensurable'
- The relationship of reverie to dreamwork
- Ethics of drawing
- Repetition with variations
- Freedom provided by random drawing surface
- Relationship of drawing instrument and media and material to be worked in.

Field note book 1.

Entry of 2.2.98

- TD is:
- Thrown away after use
- Kept but not shown
- Kept but not considered to be worth showing
- Kept but in no order somewhere in the work environment
- Kept but ordered by someone else
- Kept in some kind of order

TD would seem to have:

- None or little value as object
- Value as record or for further working purposes
- Value in relatedness to finished product
- Value as trace
- Value as text

Has no value because of :

- Habitual nature of practice
- Random and/or used nature of material support

- Semiotic diversity (multi-mode)
- Unfinished nature
- Note like quality

Value to agent as:

- Mnemosyne
- Store of ideas, solutions, resoultions
- Documentation
- Werkzeichnung (working drawing)
- Conceptual freedom
- Diary process

Entry of 5.2.98

It might be possible to discern at what (historical) point overdrawing designed to invent the 'grotesque' in mannerism, and overdrawing designed to invent mechanical movements and architectural dynamics came into being. Certainly overdrawing in the invention of architectural dynamics is strongly in evidence in our time; see the drawing strategies of Coop Himmelblau as the climax of overdrawing strategies in the service of architecture. The aggregate of techniques invented in the Renaissance form the core of TD as it is practiced today.

Kress and the 'hybrid object' are important here because in the development of devices for the representation, however schematically, of appearances inherent in TD when interwoven with language and, if I am right, based on the moves of rhetoric, produced a working method very close to the one of the 'multi-mode' used by children. There is a great contradiction here because it implies that TD as a flexible tool of exPression in which there is

maximal freedom to develop and change ideas is based on the artifice of drawing devices and rhetorical tropes.

Entry of 10.2.98

Must also deal with the problem of affinity and difference. Am I only seeing an apparent affinity between architectural TD, graphic design, etc. What, if any, are the affinities and what are the differences? Are affinities only broad or are they in details, moves, structures of argumentation? This after all is my main thesis....Is resemblance evidence of affinity? What resembles what? Is it the messiness that is the visual element of affinity? Will I uncover affinities by first pinpointing differences? Isn't the greatest affinity the different ways drawing is used which has no pretensions in itself to a finished object? Is the affinity in the transitional and transformational nature of this drawing the tropes which it employs? Are the differences produced by the way things are drawn and the spatial concepts involved? Here I must distinguish between the three-dimensional space of the architect, the two- dimensional space of page and text of the graphic designer, the three- dimensional space of the sculptor and the two-dimensional space of the painter. What about the the scientist and poet? How are all these spaces 'potential spaces'...?A salient affinity would be the hybrid nature of the transitional process i.e., drawing and words, etc.

Entry of 12. 2.98

(This entry consists of notes I took while a French-speaking colleague freely translated some extracts from Thevinin's and Derrida's book on the drawings of Artaud).

This is a dialectical relationship. More a struggle than a dialogue. A struggle with the 'subjectile'. 'La maladresse', the wrong way of doing something, draw badly on purpose...disruption. The drawing is intentionally badly and quickly done and thrown on the page as a contempt for form and drawing and lines. To despise the first idea and bring it to fall he has to destroy his own line...The words he uses (Artaud) to describe the subjectile are very strong. The fate of the subjectile is not to have a story but reflect the interminable permutation of figures (tropes). The action of drawing on the subjectile is to sound depths.

Entry of 14.2.98

In writing, the drawing would seem to operate not only as another, faster way of fixing an idea but when the writer regularly uses drawing there is a hightened awareness of mark making, a tension of inadequacies where an oscillation between sign systems is a hightened awareness that neither will do but the switch from the arbitrary to the non-arbitrary 'charges' both and both move forward. In using both, the writer strains back to the zero state which Levi-Strauss posits as the connection between man and nature before the word...

Field notebook 1B

Entry of 20.8.98

At the crux of the problem of art education and, to some extent, art criticism lies the conflict between what is thought to be the 'authentic' perceptions of the 'innocent eye', the unmediated response which finds exPression in the work of art and notions of construction and artifice. This gives rise for example to

Matisse's distinction between 'arche drawing' and 'projective drawing'. The problem is that the fetishization of art rests on a view of art as unmediated 'out-pouring', of an 'emotional exPression of self. This out-pouring is not, as Croce would say, 'susceptible to partition' but is part of the move towards seeing art as pure signifier.

Excerpt from entry of 2.9.98

On my way to a café where during the summer I write, I found a piece of paper, blank on one side and with Hebrew letters on the other side. In one corner of the page is a picture of a flower. The letters one could say were pure signifiers as I could not read them and attach a signified. But although I cannot read Hebrew I nevertheless recognised the letters as Hebrew script and this in itself might be termed a signified. Thus once any association or recogniton occurs then the signifier ceases to be pure and is open to some form of interpretation. In this case, Hebrew script. Probably a child's reading book because of the styilized flower in one corner. The activity of mind is so linked to interpretation of signs that any and all contact with anything related to a sign function produces an effort at interpretation. The written sign in the case of a signifier which cannot be read is paradoxically an iconic sign to which we apply another process of interpretation. Much art purports to penetrate beyond the sign function to the pure signifier, to sign -essence. I believe we could talk about the entire development of drawing and many of the concerns of art criticism in terms of positions between drawing as sign essence and drawing as sign activity or function.

Field note book 2

Entry of 5.3.98

What is it someone says who wants to draw in a dialogue? They say 'I need something to draw on, anything will do'. The 'anything will do' is the key. This 'anything will do' nature establishes certain conditions for the drawing process which include:

- Suspension of expectation
- Maximal dynamic
- Overdrawing
- Cancellation
- Change
- Multi-mode use
- Disregard for permanence or durability.

At one extreme of this is drawing on the paper of a serviette. The nature of the 'support' also frees the subject or disposes the subject to the use of other sign systems as there is no expectation of durability and extended cultural value of the drawing. The way something is drawn is affected by what it is drawn upon and perhaps to a lesser extent what is already upon what is drawn upon...

The 'Gegen-stand' (object) concept is very significant. If the object upon which I throw the 'over and against' object of my drawing is a support with an 'anything will do' quality, then the factors mentioned have a higher resonance; the 'over and against', bounce back quality is amplified. Why? Perhaps because intervening cultural factors are eliminated or reduced to a minimum. The 'free zone' the TD represents is a freedom from cultural expectations...This is the 'carnivalistic quality of the TD (Bakhtin). In TD, the 'beautiful' and 'good'

are suspended (see Twombly in Barthes) in an activity which has no pretensions to 'art'. The TD is an excitation of the 'support'. We must remember that at its extreme TD is made with a stick in the earth. How does this relate to structures of argumentation?

Entry of 16.3 98

- Formvorstellung
- Formfindung
- Formerfindung

(Sudrow uses these words).

Vorstellung does not imply Darstellung which is representation. Vorstellung suggests an idea which exists before its concrete representation. Sudrow talks about all of these as having to be 'dargestellt' before they can be 'erprobt', tried out and discussed. I would place, after Formvorstellung, the idea of the form-Formerfindung, the invention of the form as this would correspond to *inventio* which is getting or grasping the idea. In the case of TD, this consists of 'presencing' the idea which must correspond to its 'Darstellung'. This presencing provides perception with something cognizable, something to work with. This presencing produces an object, something thrown over and against the subject..... The 'Formfindung', form finding, takes place through the 'dispositions' of the presencing because these activate the subjectile...the mediator between innner and outer. The subjectile is Winnicott's 'transitional object'. The subjectile is a constant oscillation of input and out-put.

Entry of 17.3.98

I am watching someone opposite me write. He is, in fact, exactly where I usually sit and write. I watch the way the pen moves, his handwriting is small, the pen nib seems hardly to move at all. He frequently stops, sips coffee, smokes and changes the position of his free hand, he also stops and raises his head, looks out of the window, looks around the room. Occasionally he leans back from the work and reads. Sometimes the cigarette is left in the ash tray, sometimes it remains in his left hand.

Entry of 26.3 98

(In Thevenin and Derrida,1986 on the drawings of Artaud). 'The function of writing is not only to transmit a message or thought but must act through itself physically. Everything is calculated to attract the eye and through this action the sensibility of the person receiver. Where the lines are written on the page is important, the way they are written and the variation between letters. If you underline, sometimes you throw the lines into the page and add some signs ... the paper is made dirty with intention in special places you have chosen. All the different ways to use the space are meaningful.'

'There is a special notion of the 'written drawing' which identifies drawing and writing and makes them inseparable. He (Artaud) had to go through this process of 'drawing writing' or ideographic writing so that his hands got back into writing.

Entry of 3.4.98

Note on painting.

The problematic of painting is 'inevitability'. This problem becomes almost insurmountable when linked to 'figuration' ... Inevitability can only be achieved at the highest speed of execution or by the suspension of all figural intention. It is important to realise that I am also caught in this contradiction. The contradiction between 'spontaneity' and figuration. Authenticity of expression is at a premium...the way we talk enviously of the forthrightness of children. Forthrightness associated with the 'innocent eye' and mind, with some kind of 'natural' state and response. How does Twombly achieve this in the work but at the same time represent profundity?...How can one operation be separated from the other unless a certain 'artifice' is at work? What is it that is recognised in the work when it is complete? Could we talk about a 'style'? If we adopt another tack then perhaps this 'innocence' can only be achieved by an intense 'living in' the manifestations of the activity of painting. But what does this mean? How are we to explain this? Is this 'living in' a kind of depth sounding, a pulse set up by work with the paint which echoes down into the mind through channels and layers not accesssible to disclosure by other sign activity? But does this really help? How is it that if the artist claims 'innocence' his work still bears the hallmarks of modernity, of the genres of modernity.

I have experienced the highest degree of 'living in' the paint when I have sought a level of versimilitude which is inevitable, disruptive and, at the same time, totally analytical in the sense of an exclusive preoccupation...a seeing away from everything except the presencing produced by the painting activity. It is disruptive because its exclusivity creates zones of inexplicable tension and

shifts full of ambiguity...The overall level of versimilitude is everywhere full of abstract tensions and ambiguities.

Field note book 3

Entry of 25.4.98

At this moment a man asked to borrow my pencil in order to get the man opposite him 'to see' what he was failing to get him to see by describing the arrangement of rooms in a flat. He draws on the back of a receipt. Now the other man takes the receipt and begins to draw. He 'sees' but drawing himself gets him to see more clearly. 25.4.98 Café Aida, Wollzeile, Vienna...(to the surprise of the two men, I asked for and received the receipt on which they had drawn).

Entry of 7.5.98

When composing, say a poem, we still deploy Leonardo da Vinci's observation; we cross out lines, words and replace them with alternative ones, we revise and modify, combine and separate, fix and remove and we do the same with those things displayed in a TD...What is displayed is transitional, it is open to change and this produces its 'towardness'.

The act of poetic composition and TD can be seen as 'dichtend' as condensing. Condensing through a variety of 'moves' and 'turns'. 'Der Dichter', the poet. Using the terms of Heidegger, the act of TD is presencing, a placing before the eyes (eraügnen) and a condensing. Why is it necessary to place something before the eyes, why not just *in* the mind?

Field note book 4

Entry of 16.2. 99

A 'study' can be transitional to another process or 'transferential' without having the characteristic turns and mult- mode nature of transitional drawing. Such drawings are 'transitional to' rather than transitional in themselves. This is important because it more closely describes the difference between the architect's use of the denotation 'study drawing' and what I call transitional drawing and the architect's notion of the 'refential' drawing which I call 'transferential'.

Entry of 17. 2. 99

Is it that we have mental images which are translated into the graphic conventions of drawing or that our modes of seeing, remembering and mental 'picturing' are dependent upon culturally and even field determined iconic sign conventions? Is it the same with language? Can I think something in a form other than the one I give utterance to? Is thought language and language thought? Are mental 'pictures' cut from the same cloth as our graphic codes? I have mental pictures because of the way I use picturing or graphic devices to think something out. The more I use a particular form of picturing, the more able I become of engendering mental pictures in this mode.

Entry of 20.2.99

I am under increasing work pressure in school and at the same time I am committed to both this research and my own painting. All three have become interelated and this eases the sense I have had in the past of splitting up my efforts. A good part of my educational recommendations will be based on my own teaching practice; my painting is changing under my insights into

the play of tropes and the ascendency of the iconic signifier over the signified (which, however does not lead to abstraction but to 'inevitability').

Field note book 5

Entry of 21.3.99

Reading Foucault's 'archaeology of Knowledge'(1972). In many ways his positioning of the statement in discursive formations and practices of medicine is parallel, or has many points of contact, with my positioning of the TD in the discursive formations and practices of a number of so-called 'unities', i.e., sculpture, architecture, graphic design. He emphasises the strategic nature of the statement and its complete dependency upon materiality. Further to this, he describes his methodology as a movement of concentric circles. This is very important as it exactly corresponds to my methodological approach. A very important emphasis is placed on the complexity of the subject-field relationship.

Fundamentally, Foucault says that the 'statement' is dispersed over apparent unities of domains just as I claim TD is dispersed. Also that the statement is the place where the discursive formation and practice takes place. I claim the same for TD which forms the objects of the discourse formation and practice and is thereby more important than other levels of the discourse because it is in TD that the history of the ideas of the discourse are materialised.

In the underground station there is a cinematic screen. Yesterday I saw a Mordillo cartoon in which a convict in a prison cell has paint brushes and canvas on which he first describes a circle and then proceeds to fill it in with black paint. When the circle is completely filled out he disappears into it and we understand at this moment that he has painted the entrance to an escape

tunnel. Where is the locus of the joke, the thing that makes us smile?...The sign is so sparse that as long as the prisoner stands in front of the black circle we do not know what it signifies. It is only when he crawls into it that we are able to assign a signified. His action in relation to the signifier produces the signified which until that moment was suspended among a diffuse number of possibilities, one being that the prisoner had taken up abtract painting, another that he had taken up figurative painting and represented a full eclipse of the sun....The 'point' of the cartoon does not only lie in the sudden recogniton we experience that the black circle signifies a hole, but our willingness, on the basis of the relationship between graphic conventions and what Buhler would call degrees of versimilitude, to accept the two-dimensional sign as material space, of the circle as an opening and blackness as the opening into a tunnel. Concepts which are reinforced by our recognition through other iconic signs of the figure in the cartoon as a prisoner and his environment a cell.

Entry of 18.4.99

It is the social context which produces transferential ideas, the contact with or interventions of the 'real' (Lacan). This is true of the teacher/student relationship. The workshop atmosphere of the classroom sets up transference of ideas and use of material. An example of this from the classroom applied to my practice as an artist is the idea of a controlled use of fire as a means of working on my hangings; from the field of my research, the use of the architect's transparent paper which I in turn introduced to my higher level students. As Feldenkries said somewhere, 'the teacher must learn something'.

Entry of 28.4.99

Mental images are internalised symbol use. Memory is made of the same stuff. What will I get if I combine Bergson's theory of memory; Freud's theory of dreamwork and Vygotsky's notion of reflection as internalisation of the social?

Entry of 10.5.99

The argumentative function in TD could be seen as the search for satisfaction, a satisfactory image (Stimm). This constitutes the 'desire' of the agent (later I came to see this in terms of Aristotole's concept of *orexis* in Nussbaum, 1986)) I have said that this desire is connected to recognition but there is a deeper sense in which the 'other' is involved. The 'I addressing its me' in the internal argumentative function is the search for the 'internal object' which in Lacanian and Winnicottian terms is the maternal or social other...The argumentative function must work on the basis of the desire of the unconscious combined with restraints of the real. The signifiers are known but their eventual signified is not.

Entry of 11.5.99

The 'potential space' and the transitional object are a product of the separation from the original 'other' of the maternal object. The impulse to 'cover over' the gap which the acquisiton of the symbolic function produces represents an endless series of substitute objects which, however, never produce full satisfaction. (Lacan).

Field note book 6

Entry of 20.5.99

I must deal with Stimm's remarks on the 'seismographic' line and the line which represents different materials, as well as Spalt's economy of line and the throwness of drawing which contains all essentials. The key problem then becomes what is the relationship between personal preferences and the movement or constructions created by the line and how in particular these lines are related to a concept of transitionality and 'potential space'. In other words, do I find myself back in a concept of self expression? Here a return to Lacan for a view of the self, not as existing synthesis but as a lack, a space which must be covered over by a sign system is one approach.

Entry 2.1.2000

If an idea exists in terms of inner speech then it has a high level of condensation (Vygotsky). To try to externalise it, an instrument is needed which is close to the nature of thought and internal speech, something which will allow for condensation and displacement in a kind of replication of the way internal thought works.

Entry 6.1.2000

The indeterminacy of TD and its inherent deferral of closure are closely allied to the way ideas occur to us and are developed internally. What I suggest is that TD becomes progressively more adequate through use because its 'open weave' allows not only for the fragmented nature of inner speech to be in some way replicated, but that because of its dispensability, it is open to the world and it is this which gives it its advantage over ideas merely conceived in

the mind. TD can uncover the 'project of the self' (Sartre) and at the same time work with material from the real.

Entry of 8.1.2000

TD would seem to rest on a simultaneous constitution and de centring of the self. In very much the way Artaud talks about the subjectile, the TD involves the agent in a paradoxical at-oneness and separateness from the subjectile. The TD allows for a contemplating, reflecting agent and an agent-as-object. This is made possible because the TD is part of the real, part of the world. Its expendability emphasises its materiality. The TD is not sacrosanct but essentially dispensable; the agent is fully aware of its foundness, its groundedness in the world. This gives the agent a readiness to take the risks involved in displacement and decentring. The TD is acquired in the context of intersubjectivity, in dialogue and drawing with the other. In this context it must be possible for both participants to draw on the same piece of paper. The resulting artefact is far from our conventional conceptions of the autonomous nature of creativity, but is the product of intersubjective dialectic. To allow the intervention of the 'other,' the TD must have a not-me expendability. It must be a space which allows for I-ness and other-ness.

Field note book 7

Entry of 10.3. 2000

Dispensability would seem to have been an early feature of TD processes. The use of both sides of the paper is frequent, written words are often in evidence. Some drawings are made up of 'Klebekorrekture' (glued on corrections) which is literally a cut and paste technique where a drawing is

corrected by hiding sections with pieces of paper pasted onto the surface on which corrections or modifications were made. Drawings such as these would have been destroyed on completion of a work. Survival has given them a cultural and economic value they would not have had in the cultural context in which they were used. Examples can be found among the Italian drawings of the Albertina (1997).

Entry of 16.3.2000

I now make deliberate use a random, dispensable surface when drawing with a student. In other words I deliberately select a support with a high degree of dispensability. This seems to have a disinhibitive effect on students to the point where they take up the drawing instrument and begin to draw.

Entry of 20.3.2000

The poet does not work in a social context. He does not acquire his craft by sitting down with other poets. How does the poet acquire his language of cancellation, correction, etc? This is something acquired through education. Of course these days it might be acquired through learning drafting processes, but before these skills were taught I believe the process of having work 'marked' produces modes of transitional composition. I see this 'marking' in the literal sense of someone else making marks upon something written in order to improve it through corrections, suggestions for change, etc. The whole repertoire of circling, crossing out, of arrows reaching out into the margin and so on originate in the 'marking' made in response to writing. Probably of greatest value is when marking is carried out by the teacher in dialogue with the student. In future research explore the connection between poetic drafting

processes incorporated into TD processes and their application to visual instructions for the assembly, maintenance, etc., of machines and appliances.

In maths, students work in rough, why? Because in maths there is an ideal answer, one best known answer. Here the student is quite prepared to undertake a search and find process.The inhibitive factor in writing, art and design processes is that there is no known best answer and search and find often takes the form of only 'find'. We encourage the student to 'play' with an idea without providing any pointers on how to 'play' with ideas as if the word 'play' would trigger some kind of natural creative response.

Field note book 8

Entry of 12.4.2000

Yesterday I spent a day in a layout office. I was there on business but noticed a number of things. The creative director, as far as I could tell, did all the drawing. He drew the layout idea and three men sitting at computers worked it out on the screen. I saw him talk to one of the men about three sheets of layout and then found a drawing, heavily annotated, where they had been sitting. I saw a print out with corrections drawn upon it and I saw the creative director drawing out an idea for one of the men at the computer and talking to him about it. Thus there was:

- Drawing and talking about a layout to be produced
- Drawing on a layout once it had been produced
- Drawing related to a layout once it had been produced

The drawing was done on a rough piece of paper with printing on one side, a print out and on a piece of white blank paper. Not all the drawing was multi mode but it was certainly open to multi-modality. All the drawing was done in

dialogic interaction..... This was a bread and butter sort of place. Basic transitional process skills without a high level of design education would enable the men and women at the machines to work in a more creative capacity and to have a 'voice' in the design process.

It would be essential in future research to observe this kind of work more closely.

Entry of 5.5.2000

Met Mosswitzer briefly. He said there is no virtual space, the screen is an object just like a paper or a sculpture. I thought about this and realized that the only 'virtual' space we experience is in memory and in dream work and even these virtual spaces are dependent on object relations. The dream relies or is dependent upon the traces of object relations and the re-workings they undergo. Essentially all we have is the world of appearances whether as virtual traces or at our finger tips.

Entry of 17.7.2000

'Potential Space' functions to relieve psychological insecurity and create a self separate from the 'other', to posit the world as not-me. The Zone of Proximal Development functions to relieve semiotic insecurity and to further the acquisition of the symbolic function begun in potential space.

Appendix C

Excerpts from the selectively transcribed interview protocols in alphabetical order of informant:

Robert Kanfer

Gerhard Mosswitzer

Johannes Spalt

Oswald Stimm

Linda Vander Weele

Excerpts from the interviews with Robert Kanfer architect

Excerpt 1

DP: Can you give me some of your thoughts about drawing as a means of developing an idea.

KANFER: It is extremely important . I must go back a bit again . Professor Schusten at the Academy he always told us in actual fact what an architect should do is to sit back in an armchair, close his eyes, develop the building, design the building, walk through the building, then all he has to do is to put it down on paper. Of course I did try that and to a certain extent he is right. You really should work through a building but then I found out that when you start putting it down on paper it doesn't quite work out. That's when you start with all these scraps that you throw away afterwards. Tons of, layers of paper before you decide this is really what I wanted. But it does actually start in your brain, In the armchair. For instance, something which is very strange, it happens quite often that I had to start working on paper, my initial ideas, to

start sketching them, then I could sit back and think about them, but I had to start first on paper. I had to have something on paper and then I would think about it then funnily enough, quite often ideas cropped up and they did work, at night, in dreaming. I was working late in the evening then I went to bed and all of a sudden it occured to me that I could do it this way and I tried the next morning and it worked. So quite often the ideas developed at night.

DP: But the actual drawing, as you said, was instrumental in you getting and developing an idea.

KANFER: Yes, I had to start with a drawing first. I tried the other way, it didn't work.

DP: The other way being?

KANFER: Just thinking. Well according to Professor Schusten all I would have to do is think the whole thing through then sit down, make the drawing and it's finished but that didn't work.

DP: Do you know any architects for whom that did work?

DP: Yes, Holzbauer taught at the academy for a few terms before I went off to Schusten (Kanfer then mentions some of his fellow students at that time and who are now well-known architects) I had the imPression that Holzbauer could sit down and it just flowed out of his hand. I remember one example, which for me was amazing; one of the other architects had a bit of a problem with a design, with a floor plan and obviously he was a bit jealous of Holzbauer and he said if you are so good, if you can find a solution for this, then you really are good because I can't. Holzbauer just sat down, took the pencil, looked at the drawing for a couple of minutes put the acqua fix on and the solution just flowed out. He is a terrific architect, he does perfect drawings. As a matter of fact, a professor at the academy told him he should give up

architecture and become a painter, he was so good. (here Kanfer mentioned the water colours of this architect and of Prof. Spalt)

DP: Can you talk to me about acqua- fix? Is this a practice that has been carried on for years?

KANFER: Oh yes, it's an old practice in Austria, funny enough it didn't seem to be customary in England because when I mention the name they don't even know it. A friend of mine who was an architect in London asked me to send him some because he couldn't get it in England. Different practice altogether. That was the first thing that Professor Holzmeister told to us, don't spare acqua-fix, you have got to keep using this paper all of the time, you can never use enough acqua-fix.

DP: Have you got any, a scrap ?

KANFER: Yes, this is it. It's a very thin paper and that's why you have got it in these roles. You can put one layer over another. You try something and something is not quite right, you don't need to rub it out, which is complicated, apart from the fact that you want the different states so you put the next layer over it and the next layer over that and then you compare the layers and quite often the first layer is the best one in any case. Let's presume I have to design this house. I know the site, you have got the size of the site (drawing). This is the site, now I will just start doodling really, this could be the shape of the building .

DP: Are we looking at it from the side or ..?

KANFER: That's a floor plan. I start thinking, well this could be more or less the shape of the building, I rather like this type of building, this could be the entrance, here coming from the street, then the next stage really is - I just look at the proportions of the building itself, then I start doing this sort of thing, what

would it look like if this was a building like that. Then you start to think, well this could be the entrance here, will there be steps going up on that side? You start doing this sort of sketching, then you go back to the floor plan again. Then, now of course I don't want to spoil the initial drawing so that's when I start putting the layers over it. This could be the plan, now if this were the entrance, lets assume, this the hall, this could be the toilet space, this could be the living room and this could be the kitchen. Then all of a sudden you realise you can't walk through the living room to the kitchen so you just tear it off. The next stage, you say okay, getting the kitchen and bathroom close to the entrance, that doesn't quite work, I've got to find a way, something like this, more or less. Into here and into here as well but then, of course, this is rather a funny shape for a living room, and you keep going on like that. You say fair enough but in actual fact this could be the living room and this could be the dining room and quite often you just put in kitchen, dining, living and then where is the stair case and suddenly you realise something is missing, so you tear it off and put the next layer over that and you keep going on like that and then in between you quite often make a sketch again. So, for instance if we make it - if I increase this size what would that look like? Because then it won't look like this any more, it will be more like this. Then you start doing these sort of sketches, trying to find out will that be a good proportion or not? So it's always going backwards and forwards, we always start with a floor plan.

Excerpt 2

DP: In an architect's office are there people that draw together?

KANFER: Um, well in my experience no. Everybody drew for himself but of course then we got together and we start to discuss, then of course, then we

did . Once something was on paper, quite often one of us took a piece of paper and said I don't agree with you, then you would put one of these layers over it and then the other would do the same, but everybody had something on paper first of all or at least one had.

DP: So you could take a piece of this (indicating acqua-fix) and put it over somebody else's drawing ?

KANFER: Oh yes, we did that quite often. I myself did the initial rough idea or I asked somebody else to do it and then said okay tomorrow at ten o'clock we are going to sit down and talk about this and then we would all sit round it and everybody would start putting in their ideas. Sometimes they would say I'm going off to my drawing board to do this in quiet for myself and come back. It was done both ways but definitely you start putting layers over somebody else's drawing when you are discussing it, but always the initial drawing was done by yourself. I can never remember anybody, two of them drawing together.

DP: What kind of relationship does the final product have to this input?

KANFER: I can think of a few designs where I worked through it all by myself and then there are quite a few where some ideas were brought in by draftsmen in the office that in the end there wasn't much left of my idea. That happened too, quite often. Or for instance what we did, we designed a textile centre, a wholesale textile centre and I got these rough little sketches, what we call the Baukörper, and there were two qualified architects at that time working in my office and the one brought out a completely different idea and the other one as wel,l so we had three completely different ideas. But almost automatically to the third one I said that's what we want, that's the right solution. Naturally I brought my ideas into it then. My influence was there but

the initial design was from this other architect because he definitely had the right idea and you felt it straight away. The other one was a bit offended because he was the elder. Funny enough, I was looking through the porfolio yesterday and I suddenly found my initial sketch which was almost the same as his, but I didn't realise that till yesterday that I had the same idea. It's just a small sketch, but I had completely forgotten this, either he saw it or he was thinking what's best for the site, but then of course he did far more than I did. I made a T out of it, I more or less did that and he of course made much more out of it, but the beginning was a T.

Excerpt 3

DP:You said you sometimes write down words in a book to help you think on, could you talk to me about that.

KANFER: It really is mainly to remind me of things I want to do .

DP: Do you use words on your drawings?

KANFER: I'll show you an example of that, I do a lot of it on exhibition work which I like very much because it gives you a chance to play around with shapes and creativity. Exhibition work is where the shapes are more important than the functions to a certain extent because you have to attract the visitors to look at it, to look at the exhibits and it is something which is done very quickly and you can more or less see it growing. I love going out, mainly they were abroad you know; the Austrian exhibition in France and one in Australia and you are really there on the site and you can see it growing and within a week you see it completed. It's very satisfactory of course. I love doing exhibition work and there is one I did in Nuremburg, this was the exhibition (indicates catalogue and drawing) it's the 'Speilwarenmesse' (toy fair) which means it's just an exhibition for toys. I started with a basic idea, you know a children's toy,

the Lego brick. Then I started thinking about out of this possibly you could design an exhibition. You see I did put a couple of words down 'Kinderwurfel', Speilzeug (toy), this could be turned into a show case. These are the shelves and this is the final exhibition and the way it was built .

DP: Why would you use a word there, where this hole is (indicating drawing)?

KANFER: Because I wanted to remind myself that it could be a hole, as it is here for instance, or it could be a show case as well for things which you are not allowed to touch.

DP: And why wouldn't you draw it as a vitrine straight away?

KANFER: Well I'd find it difficult, how would you draw a vitrine with glass , you can't really show it was glass, well you could - you could put a few lines like that (drawing) yes it might be glass but you could just put the word glass in possibly. I would actually write something .

DP: So a word there serves instead of a more complex drawing?

KANFER: Right. It simplifies. It reminds me afterwards, well possibly at the back of my mind might have been the idea that I have to explain to my craftsmen as well, that might have been the reason. This is this part here and you can see it going over here. I even wrote 'Exponat' which means this could even be used as just a block to put exhibits on top.

Excerpt 4

KANFER: When I designed the Novotel at the airport we started doing the interior design for the restaurant. We got Leonardo da Vinci's drawings of his flying machines on the walls. We said this would make a nice shape for the suspended ceiling: the wings. So in actual fact the suspended ceiling for the

restaurant came out quite well because in this case we really could combine the idea of the suspended ceiling with a technical, with a mechanical part because (he begins drawing) this is the section, now we have the restaurant, this is the constuction part now because we had different ducts we needed a suspended ceiling. So we said well we have got to have a suspended ceiling but we don't want just a straight suspended ceiling without any ideas at all and rather dull, so we said okay, let's get this idea of Leonardo da Vinci with this connection to flying. This is after all an airport hotel so we put in a suspended ceiling like that and in the end it turned out here we had the constructional part to carry the ceiling and here we had the ducts for the air conditioning and inbetween we had just a sort of small metal frame with a transluscent textile and this gave the impression of these wings. The client rather liked it because he liked the idea of Leonardo da Vinci's flying design .

DP: Can you think of any other examples where you have gone to another source like that? We have your inspiration from a word the 'Spielzeug,' we have your inspiration from the wire carrying poles at Auschwitz and we have this inspiration from an art historical source as well.

KANFER: In 1958 I was asked to make a design for the BP stand in the British pavilion in the exhibition. At that time BP was advertising visco static oil, that was the basic idea. So we had to come up with an idea for a stand where this oil was shown. We came up with the idea -50 degrees is very cold - perhaps something from Alaska. +50 is very hot - Africa. At that stage I went to the museum for anthropology and they were prepared to lend us Eskimo fur coats and we built an igloo, we got masks and spears and different ethnological objects from Africa and built a Kraal and around this we built the design from - 50 degrees to +50 degrees. This really came over well because a year later

they called me up and asked me to submit a design for the whole British pavilion.This was an aircraft exhibition: Rolls Royce, Vickers, Viscount , Hawker Sidley, all those companies. So we came up with the idea of a hangar (he begins drawing). You see you have got these kind of construction parts. My partner and I sat round and said 'aircraft exhibition', we have got to build something into this empty hall, they need a cinema in the middle, show cases for smaller objects, so I said that to save space we could put the show cases as the outer wall of the cinema and then we need ..the stands have to be divided. This is an aircraft exhibition so let's make it look like a hangar and the columns supporting the hangar could be the dividing walls between the stands. People understood this straight away and it was amazing really because we never expected to win. It really was the start of a lot of things. A year later I was asked to do the American pavilion.

Excerpts from the interview with Gerhard Mosswitzer sculptor.

Excerpt 1

DP: Sie haben verschiedene Zeicheninstrumente, Kugelschreiben, Bleistift.

Mosswitzer: Ja, alles, was halt gerade da ist.

DP: Warum verschiedene?

Mosswitzer: Ja, ganz einfach, da orientiert man sich besser.

DP: Können Sie mir das erklären mit dieser Zeichnung?

Mosswitzer: Naja, nicht so konkret, das ist schon eine zeitlang her. Das mache ich so und das ist dann vorbei. Aber wahrscheinlich, dass man das halt besser sieht, dieses Teil oder dieses Teil, das hängt ja manchmal auch damit zusammen, dass ich auch andere Materialien einbauen will, dann mache ich das farbig. Oder zur Orientierung halt. Da ist ja nicht viel Farbe drauf. Das wird vielleicht Messing sein, das weiss ich nicht, aber irgend ein anderes Material ganz einfach, oder eine andere Struktur.

DP: Eine andere Struktur?

Mosswitzer: Ja, dass die Oberfläche anders sein soll. Ja, möglicherweise, weil ich baue ja - das Grundmaterial ist meistens Stahl, und dann arbeite ich auch mit Messing, wo ich dann Glas dabei habe, Plexiglas, oder ganze Körper, so wie die da, die sind dann mit Plexiglas abgedichtet. Und Aluminium.

DP: Das Gelbe, ist das Plexiglas?

Mosswitzer: Ja, an sich ist da Glas drüber bei der Arbeit. Aber warum das gelb ist, da fragen Sie mich zuviel. Nur ein anderes Material, dass das hervorgehoben wird, da muss was anderes hin. Wenn man es dann macht, ist das eine Entscheidung, was nimmt man jetzt.

DP: Ist das eine Erstzeichnung oder eine Serie?

Mosswitzer: Ja, es sind immer Serien, aber das hängt nicht zusammen, das ist ja viel später, das ist vielleicht zehn Jahre früher.

DP: Können Sie mir eine Serie zeigen?

Mosswitzer: Das finde ich jetzt nicht heraus, weil das ist alles durcheinander. Ja, aber das sind die Rahmen, das ist keine Serie, aber das sind die Art Rahmenskulpturen, weil da gibt es auch einen Katalog, wo nur die Rahmenartigen drinnen sind, und das sind die Zeichnungen dazu. Da geht's darum, das ist ganz einfach, bei mir ist alles ziemlich konkret, ich muss die Teile genau zuschneiden vorher, also ich kann ja nichts - wie ein Steinbildhauer oder Holzbildhauer, der arbeitet von aussen rein und der kann was verändern, viel verändern, also nach Tagesverfassung. Ich glaube, deswegen arbeite ich auch mit diesem Material, weil ich da vorher überlegen muss, was ich mache. Ich kann nicht da meditativ irgendwie dahinarbeiten, bestimmte Vorstellungen dann vereinigen. Die Teile müssen alle konkret sein, und so wie bei der Skizze, da heisst das einfach da, da habe ich Spielraum zum Improvisieren. Mit den beiden, die schon ganz exakt zugeschnitten sind. Bei den anderen Geschichten habe ich ein bisschen mehr Spielraum. Deswegen brauche ich da nicht mehr. Es gibt schon, wenn ich so etwas anfange, mache ich meistens schon eine Planzeichnung, und eine erste Arbeit wird immer ziemlich ganz genau geplant. Und aus der entwickeln sich dann Dinge heraus, wo man mehr Spielraum hat und improvisieren kann. Man muss zuerst genau planen, damit ich weiss, stimmt das Konzept oder stimmt es nicht. Weil ich kann nicht zu improvisieren anfangen und - ich weiss nicht, wie das dann ausschaut. Also, die erste Arbeit ist immer ganz wichtig, dass sie exakt durchdacht ist, durchdacht, geplant usw. Und dann, aus der entwickelt

sich dann weiteres, wo ich mehr Spielraum habe und mehr improvisieren kann. Die Teile sind aber immer alle exakt, weil ich kann nicht irgendwas - die müssen aus Stahl genau zugeschnitten werden oder aus Aluminium, usw. Das ist eine bestimmte Eingrenzung auch, aber die will ich auch, weil ich will nicht so uferlos irgendwie dahinarbeiten. So nach Tagesverfassung womöglich.

Excerpt 2

DP: Das Zusammenspiel zwischen Wörter und Zeichnung, können Sie mir das erklären?

Mosswitzer: Da schreibe ich einfach irgendwas drauf. Was habe ich da geschrieben? 'Teilklemmen'. Ja, das sind technische Sachen. 'Bohrung, nur Alu', das sollen nur Aluteile sein. 'Alu in gelb', aha, da habe ich farbige Dinge auch, so farbbesschichtete Teile auch, von dem System habe ich Teile farbbeschichten lassen und die habe ich da eingebaut. Im Katalog, ich weiss nicht, ob Sie geschaut haben, da sind diese Dinge hier. ...Kann ich selbst nicht lesen. 'Später Gruss', was ist ein später Gruss? Keine Ahnung. Manchmal schreibe ich auch was drauf, was mir gerade einfällt. Aber daran erinnere ich mich nicht mehr.

Excerpt 3

DP: Und die Rolle des Zeichnens in diesem physischen Prozess?

Mosswitzer: Die ist ganz einfach da, da zeichnet man ganz einfach. Es ist ja bei mir so, manchmal zeichne ich monate- oder jahrelang nichts und dann zeichne ich wieder viel.

DP: Heben Sie alle Zeichnungen auf?

Mosswitzer: Ja, die meisten.

DP: Was für einen Wert hat diese Zeichnung für Sie? Für mich ist es Arbeitswert, ich verkaufe meine Zeichnungen nicht, die kleinen verkaufe ich alle nicht... Ja, für mich ist es Arbeitswert, Gedankengut und das brauche ich immer wieder.

DP: Gedankengut.

Mosswitzer: Ja, irgendwann brauche ich das.

DP: Können Sie das erklären?

Mosswitzer: Naja, Gedankengut ist ein blödes Wort, das klingt so... es klingt so nach Wert. Das mag ich eigentlich nicht. Ich verkaufe die z.B. nicht, weil ich sie total wertfrei halten will. Ich will nicht wissen, dass das jetzt einen Wert hat, auf Schilling umgesetzt. Das will ich nicht. Ich will das ganz einfach, das sind Gedanken, die kann ich wegschmeissen und die kann ich aufheben, und die sollen wertfrei bleiben. Bei diesen Dingen ist mir das wichtig, irgendwie.

DP: Können Sie etwas tiefer hineingehen, warum das wichtig ist, dass diese Dinge wertfrei sind?

Mosswitzer: Das weiss ich nicht. Ich arbeite auch viel mit Photographie, die verkaufe ich auch nicht, das will ich auch, dass sie wertfrei bleibt. Das ist auch so eine experimentelle Photographie, so Sachen, die man nicht machen darf usw. Da habe ich natürlich auch vielfach mit meinen Teilen da von den Rahmenskulpturen...

DP: Sie haben gesagt: 'Die brauche ich.' Können Sie mir erklären, wie Sie sie brauchen?

Mosswitzer: Gedankenerinnerung, manchmal taucht irgendetwas auf, und da braucht man ein paar Zeichnungen von denen irgendwie, dass sich das irgendwie weiterentwickelt. Dann hole ich mir ganz bestimmte heraus, die weiss ich, die brauche ich jetzt, und dann wird meistens was draus wieder.

DP: Können Sie mir ein Beispiel davon geben, wo Sie eine dieser Zeichnungen herausgefischt haben und ...?

Mosswitzer: Naja, das kann ich jetzt nicht nehmen, aber da ist dieses System auch. Ich meine, das z.B. brauche ich immer wieder, weil aus dem sind die ganzen anderen entstanden.

Excerpt 4

DP: Können Sie mir mehr über diesen Wert, frei von Werten, erzählen?

Mosswitzer: Ja, das ist ganz einfach. Das hat damit wahrscheinlich zu tun, dass man was verkaufen muss oder was verkauft, dass man von dem lebt, usw. und das hat alles einen bestimmten Wert. Und ich bin ein Mensch, der eigentlich nichts haben will und nichts ausgeben will. So geht's eh vielen, dass die Existenz jetzt damit zusammenhängt, wieviel Skulpturen oder ob ich Skulpturen mache, usw., da habe ich halt, bei meinen Zeichnungen und meinen Photos, da hab ich Musik sowieso, Platten, die werde ich nie verkaufen können, da habe ich meinen wertfreien Raum ganz einfach. Weil es muss ja fürchterlich sein, weil... ich glaube, ich kann mir vorstellen, wenn das 30.000 Schilling kostet, fängt man mit dem ganz anders umzugehen an. Man haut das nicht einfach irgendwo in die Ecke...

DP: Wie anders?

Mosswitzer: Sagen wir, man hat jetzt zehn verkauft davon, um das Geld, und ich glaube, automatisch wird man was anderes. Also das hängt jetzt nicht mehr mit den Zeichnungen zusammen, sondern man muss immer aufpassen, dass man nicht was anderes wird, dadurch, wie die Welt passiert und wie man in ihr steht.

DP: Wie anders würden Sie mit Zeichnungen umgehen, wenn Sie wissen würden, dass Sie diese Zeichnungen verkaufen könnten?

Mosswitzer: Na, ich würde nicht anders umgehen damit, aber mir ist es lieber, wenn das ganze wertfrei bleibt. Ich muss es ja nicht verkaufen...Dass man ganz einfach wertfreie Zonen hat. Da• nicht alles mit irgendetwas Materiellem verbunden ist.

DP: Was ist der Inhalt von dieser wertfreien Zone?

Mosswitzer: Das Leben besteht einfach aus Werten, überall. Ich denke ja nicht so, aber jeder schaut nur, aha, der hat das Auto und das ist das, und der hat das, das ist jetzt unheimlich primitiv, was ich sage, aber das sind ganz einfach Urgründe des Lebens.

DP: Aber diese Zeichnungen, haben Sie gesagt, haben einen Wert für Sie als...?

Mosswitzer: Als gewisses Gedankengut, das ich jederzeit hervorholen kann, wenn ich das und das Blatt brauche. Das ist ja der Hauptgrund, warum ich sie nicht hergebe. Nicht, weil ich sie so gern habe, ich bin der letzte, der alles aufhebt, wirklich nicht. Z.B. habe ich 40 oder 50 Skulpturen gehabt vor 63, die habe ich alle zerschnitten. Staffelweise habe ich überhaupt nichts mehr. Ich bin einer, der das immer... Je weniger, desto besser.

Excerpts from interviews with Prof. Johannes Spalt Architect.

Excerpt 1

DP: Ich wollte Sie fragen, Sie haben verschiedene Arten von Zeichnung, Sie haben Zeichnungen, die Pläne sind und Sie haben dann Aquarelle, dann haben Sie diese Entwurfe, diese ersten Zeichnungen, Ideenzeichnungen. Was

haben - das ist für mich in meinem Research ein grosses Problem - was haben diese Entwurfe, diese ersten Zeichnungen fur einen ästhetischen Status?

Spalt: Sie sind an sich das wertvollste.

DP: Das ist sehr interessant.

Spalt: Wenn Sie die Zeichnungen von Mendelsohn oder anderen gro•en Architekten nehmen, von Mendelsohn gibt's hunderte Skizzen, z.B. ganze Visionen und Dymanisierungen, aber auch von anderen Architekten, wie etwa AdolfLoos, der so denkt man, ungeschickt zeichnete, aber unglaublich räumlich denken konnte.

DP: Können Sie erklären, wie meinen Sie 'ungeschickt zeichnen'?

Spalt: Loos war kein sehr perfekter Zeichner, das man sagen könnte er hätte einen schönen Strich. Und das ist aber nicht nötig. Er kann ruhig ein wenig,ungeschickt sein in der Zeichnung, drückt aber mit seiner Art der Darstellung viel mehr aus, als man es mit einer perfekten Zeichnungen könnte. Also Loos ist ein Beispiel dafür, dass die elegante Zeichnung nicht automatisch das Gute ist. Er hat hochkompliezierte Räume gedacht, alles war in seinem Kopf. Seine Zeichnungen waren nicht so perfekt, aber sie enthielten dennoch alles was er in seinem Kopf hatte. Ein anderes Beispiel ist Otto Wagner, ein grosser Architekt in Wien. Er machte eine Freihandzeichnung schon im Massstab, die seine Schüler dann für ihn auftragen mussten. Und wenn dann einer seiner Leute kam und sagte: "Ich kenne mich da nicht aus, Sie haben das nicht so vollkommegezeichnet...!" ist Otto Wager gleich ganz wild geworden und hat gesagt: "Sie sehen schlecht, alles ist drinnen, alles ganz genau."

Excerpt 2

Spalt:....Also das Unmittelbare das Spontane, wo die Routine noch nicht mitspielt, kann oft gute Ergebnisse hervorbringen.

DP: In Zeichnungen auch?

Spalt: Ja, genauso in Zeichnungen. Auf unseren Studienreisen etwa nach Jemen, Norwegen, Spanien, Moskau usw. mussten die studenten immer zeichnen. Es waren gezielte Reisen. Nach jeder Reise gab es ein Fest in der Meisterklasse. Es wurden alle Zeichnungen aufgehängt und begutachtet und dabei kommt natürlich die ganze Sicht wieder zurück. Das Zeichnen ist ein Prozess, bei dem man die Dinge, die man sonst nur oberflächlich anschaut, verdichtet und auf diese Art besser behält. Also es ist entscheidend, dass man über das Malen Errinerungen fixiert, für sich selber.

DP: Über die Zeichnungen und über über das Malen, das habe ich als Pädagoge damals empfunden. Erstens wird durch das Zeichnen die Hand, die ja ein wunderbares Instrument ist, geschult und zweitens wird das Farbempfindung verfeinert. Die meisten Personen scheuen ja den Umgang mit Farbe, obwohl sie überall im täglichen Leben eine Rolle spielt, in der kleidung, im Kino etc. Sie ist ein ganz wesentlicher Faktor unseres Lebens.

Excerpt 3

Spalt: .....Ich würde über Loos nicht sagen, dass er nicht zeichnen konnte, aber seine Zeichnungen schauen nicht so perfekt aus wie die anderer Architekten, aber er drückt darin trotzdem das Räumliche genauso gut aus.Seine Bauten sind ja räumlich besonders intressant und sehr komplex, was gar nicht so leicht darzustellen ist. Er war ja kein Maler sondern Architekt und da genügt die Information seiner Vorstellung. Die Zeichnungen hat er ja nicht

für seine Bauherren gemacht, sondern für sich selber. Er wollte damit gewissermassen sehen wie das tatsächlich aussieht, was er räumlich vorstellte.

DP: 'Sehen wie das tatsächlich aussieht, was er räumlich vorstellte'. Wie sieht ein Architekt in Zeichnungen die räumlichen Verhältnisse?

Spalt: Ich bin natürlich kein Psychologe oder ähnliches um das beanworten zu können. Schon Josef Frank hat gesagt, dass ein Architekt, der nicht vorher schon das Haus vorher komplett in seiner Vorstellung hat, soll es lieber sein lassen, ein Architekt zu sein. Das ist ein wesentlicher Punkt, dass ich alles sehe, bevor ich zeichne. Aber es gibt natürlich Architekten, die über die Zeichnung erst zu ihrer Sache kommen.

DP: Aber letztes Mal haben Sie gesagt, im Gespräch mit anderen, in der Arbeit mit drei anderen Architekten, sie haben gesagt, man hat gesprochen, diskutiert, und gezeichnet.

Spalt: Ja, aber bei deise Diskussion ging es um funktionelle Probleme natürlich schon um Baukörper, oder wie bringt man diese unter. Aber ich denke, was dann letzlich einen Architekten ausmacht, ist sein persönlicher Beitrag, den er für die Allgemeinheit liefert, egal ob dies ein kleiner oder ein ganz grosser Beitrag ist. Das weiss man ja vorher nicht. Z.B war Loos vor nicht so langer Zeit gar nicht allgemein bekannt und gar nicht 'gross'....

Excerpt 4

DP: Sie haben über Salettln gesprochen, Salettln in Wien und in Ihrer Kindheit...

Spalt: Ich habe ja erzählt, dass Thomas Bernhard in seinem Stück 'Italiener', ein Salettl beschreibt. Darin haben Kinder gespielt, es wurde auch

Theater gespielt und sogar der besitzer darin aufgebahrt. Die Besonderheit des Salettls ist seine leichte Bauweise. Ich habe schon gesagt, dass die grossen Komponisten in Salettl komponiert haben, weil sie warscheinlich von der poetischen Stimmung, die so ein Salettl ausstrahlt, angeregt wurden. Wien war im Mittelalter und bis in die Türkenzeit eine sehr abgegrenzte Stadt. Aber dann entstand rundherum eine ganz Vorstadtkultur mit vielen Gärten, wie man auf Kleiner- Bildern sehen kann. Und in diese Gärten wurden Salettl gebaut, in die man z.B bei Regen flüchten konnte. In Deutschland gab es vor dem ersten Weltkrieg den Architekten Schulze- Naumberg, der später ein wenig narzistisch war und der eine sammliung von sehr phantasievollen Gebäden herausgab, Häuser wie kleine Schlösser, eingefügt in einem englischen Park. Davon haben wir natürlich viel übernommen. Auch auf einem Raddampfer gibt es auf dem Deck eine Art Salettl, in dem man witterungsgeschützt auf Bänken um einem Tisch herumsass und etwas konsumierte, traumhaft. So hat also dieses leichte Konstruktion viele Variationen erlaubt. Es gab Brückensalettl, Turmsalettl, Bergsalettl, Wassersalettl, Baumsalettl und andere.

DP: Haben Sie Bilder von denen?

Spalt: Ja, viele. Ich dachte, das die Herkunft der Salettl orientalisch, türkisch ist. Dort heissen sie Köskler und ich hab dort viele wunderbare Beispiele in sehr leichter Bauweise gefunden. Die Türken, vielmehr die Osmanen haben eine andere Beziehung zum Haus, ähnlich wie die Japaner. Sie bauen in das haus einen unbehauenen Stamm ein, gewissermassen zur Erinnerung, dass nichts ewig ist und das das leben etwas mit der Vergänglichkeit in der Natur zu tun hat. Eine gescheite Sache.

DP: Das erinnert mich an die Odyssee, Homer. Das Bett von Odysseus und Penelope ist ein Olivenbaum. Das war ein Eck vom Haus.

Excerpts from interviews with Oswald Stimm, sculptor

Excerpt 1

STIMM: This is a letter to the secession and on the other side I made some sketches. (indicating other drawings) These more finished drawings were made to give to somebody.

DP: This drawing has writing on it . Is it to do with the work?

STIMM: No, no, they are completely different things. Sometimes there are parts of less important drawings ..Die wertvollsten Impulse bekomm ich von den wirklich ganz unwichtigen Zeichnungen. Wenn eine Zeichnung zu sehr ausgeführt ist, dann hat es keinen Sinn mehr. Die KonstruKtionszeichnung von diesem Kopf, die habe ich unter vielen anderen Kritzelleien auf einem Blatt gefunden und von dort ist es ausgegangen. I keep the drawings in a place and I am seeking something and suddenly find it. It's without any order. But I know all these papers. If I guard it then because it has some meaning for me maybe later.That means I can use it, I must deposit it in the memory.This drawing for example is too perfect and without tension and it could happen that I throw it away (looking at another drawing on a tiny piece of paper). I never would destroy this, as insignificant as it is. It could be useful. I drew on both sides. Here is a little bit too elegant too decorative. It weakens the expression of a drawing if it is completely finished. If it is 'bonito'. Then it is weak. In its aussage.... the criterion is that a drawing which appeals to be accepted in the bourgeoise way this is mostly very weak. If it is reduced, some element, some ugly element, it could be very strong containing something very strong. It means not making concessions. And a drawing - you meet people and they are friendly and to please them you make a drawing, that means to weaken an

idea. Es geht so weit, dass wenn du mit Arbeitern zusammenarbeitest, plötzlich einer sagt: 'machen wir einmal eine Frau.'(looking through drawings) This is very authentic. It means that it came really from the impulse of one idea and not to fulfil expectations by people who want to have a drawing.

One is weak and keeps things. For example this drawing. I was seeking for this particular small piece which was the beginning of one construction of importance for me. This was the head I made after knowing, still in the konstructivist epoch, but already knowing Alberto Haredia. (Drawing from 1963) I forgot this drawing then I discovered in this drawing in a small part, a very important impulse to go on. And I have seen in one second the inner construction of this head. It is very interesting to find this drawing because it marks me that by drawing I was more wise than I could realise in the moment I made the drawing. I had to develop constructive thinking for to realise this and this drawing. My inner construction of this construction was not already ripe, ready.

Excerpt 2

Ink exists in some relation to the planks of wood. I am constantly seeking for materials. Materials to work in. I nearly never could draw with pencil. Pencil creates too much shadow, too much weakness. If I would amplify the line of a pencil on the borders it would be very .. not exact, fuzzy. For a long time I have been using a 'Rotring'. It was very useful in Africa. While one was in the jungle one could not take a bottle of ink and so I was ready to make drawings in the jungle you use in representing working to be done in metal. Also chinese ink. Die Schärfe der Linie. Its nearly incision. I would like to make a drawing on a soft metal plate,yes. Maybe it's related to the fact that with a

weak very soft stone you cannot make certain things, you are not satisfied, you have not conquered really. Granite is the highest level of sculptural quality. To get an image out of granite. ..I feel it's the hardness of the material which obliges you to make the maximum of effort and it will give you the maximum of satisfaction.

Excerpt 3

(Talking about ideas for a granite sculpture)

DWP: Would a computer rotation of a scanned drawing have helped?

STIMM: It would be not so much help because of the lack of volume which makes a new dimension which is more important. The volume, the totality of the piece is more important than turning around a drawing. There is too much in the head only and not to be felt. I think it is really a pleasure to look at the body and not to have a photo of the body. A photo is more than a contour but the reality of a volume is irreplacable. Sometimes it is not necessary to go around for to feel the presence of the volume but the fact is that it is very important to feel the depth of a volume.

DWP: Can this be captured in drawing?

STIMM: Yes, sometimes, but mostly with very few lines. Not imitating the third dimension (looking at a series of six drawings). This is too much. Maybe this drawing with the less lines is more reflecting volume than this one. It comes from line and of the seismographic quality of the line.The seismographic quality this aspires not to organism (looking at a drawing from 88 and comparing it to two others). Without knowing which connection they have here it is clear that it is a planemetric situation inspite of here it aspires to a volume, a third

dimension (looking at one of the African figures in comparison to the recent drawings). Less is more.

DWP: Why do you use the metaphor of the seismograph?

STIMM: Vibration, tremor, this provokes something deeper, it takes the whole body nearly.

Extract 4

DWP: Do you ever do a sculpture from an idea already formed in your head?

STIMM: Ganz ist das mir nie gelungen, die ist immer erst aus wirklich ganz wenig Strichen ein Ansatz, der dann irgendeine räumliche Fantasie produziert hat und dann mit dem Material zusammen ist dann erst die Lösung gefunden worden. Ich glaube, ich kann eine fertige Skulptur in meinem Kopf nicht sehen. Ich muss unbedingt dieses Fingerspiel, das Material unter den Händen haben und dann erst zu wissen, wie die Körper zueinander stehen müssen. Ich denke mir oft mich hinsetzen und vielleicht fehlt mir auch die Übung, die Meditation aber mich hinsetzen in Ruhe irgendwie eine so zusagen eidetisch, eine Leinwand einen Imaginären vor mir zuhaben, um diese Skulptur zu sehen, glaube ich das ist mir nicht geglückt, obwohl ich sehr für diese Phenome grosses Intresse habe, also das gelingt mir höchstens in der Nacht bei geschlossenen Augen und in der Dunkelheit, dass ich dann so eine Skulptur in etwa vielleicht wahrnehmen kann. Aber so bei hellichtem Tag die Augen schliessen und eine Skulptur sehen, das gelingt sehr schlecht. Da muss immer irgendwie das Material dabei sein, und ein Winkel zum Beispiel von zwei Elementen, wie sie zusammenstehen, kann den Prozess der Gestaltung entzünden und das ergibt dann die Plastik. Eigentlich sie wachsen alle, sie

wachsen mehr. Ich würde gerne so konzentriert arbeiten koennen, dass ich nur den handwerklichen Vorgang zu lösen hätte, aber der handwerkliche Vorgang erweist sich als derart mächtig, dass ich mich dann fast als Sklave dieses handwerklichen Vorganges fühle. Ich muss dann ..ich bin ein Gefangener des Prozesses der handwerklichen Arbeit...obwohl jemand hat geschrieben, 'Stimm ist schon zu lange im konzeptuellen Denken drinnen'. Aber es handelt sich nur um die Richtung, das ist vielleicht ein Konzept, aber nicht um das Einzelstück. Das Einzelstück, das richtet sich immer nach dem Arbeitsprozess und dieser besteht meistens aus gefundenen Stücken. Dass ich mir richtiges Holz kaufe, viel Geld ausgebe fur einen Stein, das kommt selten vor. Auch beim Zeichnen ist das so, dass ein sehr wertvolles Papier, ein sehr teurers Papier, mich komplexiert, so dass ich nicht mehr diese , diese vergessene Leichtigkeit besitze, die ich bei einem schlechteren Papier ohne weiteres habe. Das ist ein Fehler (laughs). Denn die Zeichnungen von Heroscos haben mir sehr gut gefallen. Er hat teures Papier genommen und ein paar kratzige Linien drauf gemacht und das hat natürlich kolossal gewirkt. Wenn das dann ..weil ich sie nicht in Rahmen sehe, die Zeichnungen, ich sehe sie nur immer in den losen Blättern . Wenn ich ja so jetzt mehr Rahmen mir gestalten könnte, um die Sachen wirklich in einer wertvollen Form darzustellen, dann würde ich vielleicht mit der Zeit draufkommen, dass es wirklich besser ist, grosszügig auszugeben und etwas zu machen, was absolut akzeptabel ist.

DP: What do you mean by acceptable?

STIMM: Akzeptabel, wo man sogar Geld dafür bekommt. Meine afrikanischen Studenten die haben.. waren so arm, das sie jedes Papier vielleicht für zwei, drei Schilling kaufen mussten, jede gewöhnliche Heftseite und die haben zwei Stunden auf einem Blatt gezeichnet, bis die Zeichnung tot

war, aber sie war zumindestens... sie hat den Wert repräsentiert, den das gekostet hat. Ich habe sie immer bedauert in dieser Hinsicht , sie konnten nie ihren Gefühlen richtig Ausdruck geben. Sie waren die Skalven des schmalen Budgets. Aber auf dieser Ebene habe wir uns eigentlich ganz gut gefunden, die Afrikaner und ich. Ich war auch nie verwöhnt mit Geldmitteln und also mir ist ein gefundenes Holz genau so lieb wie ein sehr schön ausgeschnittenes und poliertes Stück und die Spuren, die Arbeitsspuren, die sind auch wichtig als Ausdruckssteigerung, und ich bin auf die Patina die chemische Patina gekommen, weil das auch die leichteste Art und die billigste Art ist eine Skulptur irgendwie zu erhöhen aber eine perfekte (a cat walks into the room). Die Katze kommt. Aber eine perfekte Bemalung und dann geschliffene Oberfläche, die habe ich am Anfang in Argentinien gemacht. Vielleicht war da so viel Energie vorhanden, dass ich wirklich tagelang geschliffen haben, um die Farbe perfekt aufzutragen.

Extract 5

DP: What is the role of the title?

STIMM: Der Titel ist schon wichtig aber im Grunde genommen, so muss die Arbeit das Wichtigste sein. Aber es ist auch vielleicht eine gewisse Eitelkeit drinnen, einen zündenden Titel zu finden, also nicht nur also eine fertige Arbeit hinzustellen, sondern auch noch zusätzlich eine dekorative, zusätzliche in Form von einem zündenden Titel.....etwas einprägsames den Menschen mitgebend, das ihnen hilft entweder ihre eigene Kritik zu finden oder zu akzeptieren, was ich suggerieren möchte. Es kann aber auch sein, dass gerade der Schock, den der Titel verursacht im Betrachter, dass der zum Widerspruch aufruft beim Betrachter. Aber für mich geht eine eigene

Faszination vom Titel auch aus. Kann mich selbst faszinieren.....Ich glaube, dass es eine magische Bedeutung hat, eine magische Bedeutung für mich auch. .....Ich bilde mir ein, worte haben eine magische wirkung. Skulpturen auch natürlich, aber vielleicht sogar weniger als Worte. Eine Skulptur kann nicht so leicht in ein Wort gefasst werden. Vielleicht ist zuviel sofistisches drinnen, aber eine Skulptur habe ich, die heisst, hat mir die Laura gesagt, wie sie sich getrennt hat von mir, hat sie gesagt: 'Zukunftstausch'. Habe ich nicht begriffen am Anfang .Wir haben die Zukunft getauscht, gewechselt, die Zukunft gewechselt. (Stimm gets the sculpture). Das war ein Konflikt, den ich mit einer Freundin gehabt habe, wir haben uns gestritten und unser gemeinsamer Weg ist unterbrochen worden und hat sich aufgelöst. ich finde diesen Konfliktmoment hier representiert, indem diese Passage hier unterbrochen wird und eine solche Richtung in beide Richtungen sich enfernt, also das wäre Literatur, wenn ich jetzt das so erkläre, aber in irgendeiner Form ist es mir heute bewusst, dass das ein glücklicher Moment war, eineTitelgebung. Ich horche, was meine Kollegen, Freunde sagen und hier und da sagen die auch einmal dieses Wort, und das schlägt ein wie der Blitz, kann sein. (Stimm gets another sculpture) Hier habe ich dieses 'Kippmoment' noch in einer anderen Form drinnen, aber es muss auch ein Kippmoment schon vorgefühlt werden, aber den richtigen Eindruck, wie das in einer ganz exemplarischen Form passiert, das habe ich in Buenos Aires erlebt, im Jahr 1963 bei der Austellung eines Argentiniers, der lauter kippende Objekte im Raum liegen gehabt hat, über die man darüber gegangen ist und dadurch ein ganz anderers . ..hat mir in anderen Worten, eigentich den Strassenzustand der Strassen von Buenos Ares dagestellt. Die Strassen, die so gefährlich sind, dass man jeden Augenblick verschwinden kann in irgendeinem Loch. Eine dritte Weltsituation,

nicht die Gefahr, es ist wie der Marsch durch einen Dschungel, in dem du jeden Moment von einem wilden Tier überfallen werden kannst. Du musst 'aware' sein, aufmerksam sein.

Excerpt 6

DP: Was ist der Unterschied zwischen dieser Zeichnung und jener hier? Bei beiden hast du gesagt: 'Ich kann sehen, wie ich das konstruieren werde.'

STIMM: Naja, das sind Werkzeichnungen, die sind ja abgehoben von einer klassischen künstlerischen Zeichnung. Ich war immer anatomisch irgendwie und künstlerisch irgendwie genial, sagen wir. Nicht genial, sondern das ist schon ein handfester Konstruktionsplan. Da ist die Vorstellung schon ziemlich konkret, das ist nicht so sehr künstlerisch. Also künstlerisch im negativen Sinn, diese schummierten Schatten, Licht usw. Das ist schon Reduktion zur Konstruktion.

DP: (looking at the drawing) Reduktion zur Konstruktion. Kann ich das auch photokopieren? Dann eine Frage, Oswald, wenn ich dir ein Bild von einem Ingenieur oder einem Architekten zeige und das ist jetzt ein Gebäude, was ist dann der Unterschied zwischen diesen Zeichnungen und deinen Zeichnungen?

STIMM: Er hat eine Schulung, der Architekt, und die ist zweckgebunden. Und das ist mehr emotional gebunden noch, das hat aber keinen... Das ist zufälligerweise jetzt eine Vorstufe für eine Bildhauerarbeit

DP: Was ist der Unterschied zwischen den Ideenzeichnungen, ich meine nicht die Planzeichnungen, von einem Architekten und diesen hier?

STIMM: Das ist schon fast... Das könnte schon fast auch eine Skizze sein eines Architekten. Ein Architekt müßte auch so zeichnen können, meiner

Ansicht nach müßte er viel mehr zeichnen, aber er wird durch viele Zwänge wieder gezwungen, die Kostenrechnung und das alles drängt sich dazwischen. Er wird gleich denken, was würde das kosten, weil da wird die Oberfläche größer und wie muß ich das verbinden, daß dieser Winkel bleibt, das ist ja nur dann die Haut von einer Dachsituation. Und das habe ja ich nicht notwendig, weil ich will ja nur den Rahmen machen.

DP: Und da? Was ist der Unterschied zwischen einer Ingenieurzeichnung und dem?

STIMM: Das ist schon ganz was anderes. Wenn ein Architekt so zeichnen würde, würde er Gefahr laufen, daß er in der Utopie landet. Es könnte ihm aber auch irgendwie nützlich sein, weil er würde draufkommen, daß das ja auch einem gewissen Medulansystem entspricht. Die Medula ist hier, und dieses Gebäude ... Ich glaube sogar, der Hollein macht jetzt so ein Gebäude. Einen schiefen Wolkenkratzer.

Excerpt 7

STIMM: Ja, im Prinzip. Du erkennst es ja als Zeichnung.

DP: Ich erkenne es als Zeichnung, das Kippmoment erkenne ich, ich erkenne das als eine Innenseite, das als den oberen Teil. Aber was ist, was ich nicht erkenne?

STIMM: Ja, wenn du jetzt der Herr Meier bist..

DP: Ich bin nicht der Herr Meier. Aber ich habe eine gewisse Kenntnis über Zeichnung , ich bin Maler. Was siehst du drinnen, was ich nicht sehe?

STIMM: Du siehst das Holz nicht, was ich verwende. Aber ich sehe schon das Stück Holz, was ich habe. Ich sehe das direkt. Wie das geformt werden kann und was diese Kante hier auch ein bißchen einem Würfel ähnelt.

Also ich kann mir schon vorstellen, das dieser Winkel hier in den Untergrund hineingeht und hier wieder herauskommt. Aber nicht ganz genau natürlich.

DP: Du hast mir weitergeholfen auf dem Weg, viel. Kann ich das auch kopieren?

STIMM: Es ist gut, daß man redet darüber, weil ich durch das Reden auch irgendwie bewußt werde.

DP: Aber ist das Bewußtsein gefährlich? Ändert es die Praxis? ZB meine Anwesenheit hier in deinem Studio mit deinen konstruktivistischen Gegenständen und dem Licht hier hat einen großen Einfluß auf meine Malerei. Ich kann das nicht verhindern. Ich sauge das auf und es wird widergegeben. Aber das rationale Gespräch über den Schaffensprozeß, ist das etwas Negatives? Ist das etwas 'threatening', ist das etwas...

STIMM: Vielleicht, wenn ich es ganz genau sagen könnte, aber du siehst ja, ich kann es nicht. Wenn ich das ganz genau sagen könnte, vielleicht bräuchte ich dann gar nicht arbeiten, wenn ich das genau verbal erklären könnte. Also dieses gewisse Halbbewußte habe ich auch notwendig. Dieser kleine träumerische Zustand.

DP: Kann man sich in diesen Zustand absichtlich versetzen?

STIMM: Naja, du versetzt dich jede Nacht in diesen Zustand, indem du träumst.

Excerpts from interviews with Linda Vander Weele graphic designer.

Excerpt 1

DP: When you begin a new project, can you explain to me the mechanism by which you go back and resource former ideas?

VW: Generally I do have a bit of a stockpile of finished art for a particular client if I know I am going to be hired by that client again or there is any indication that I might be. If it's a job where that's it, it's a one-time job, never again then, like I said, I really don't save the pieces unless there is a single element - but very often some of the single elements ... this is a good example of that. I did this job for Shell Oil and I took that globe there and I had that globe on a computer disk and I used it here for UNIDO. It's the same globe on the computer disk but here it is screened to get darker and lighter and it became kind of styilised, do you see how the edges are but it's the same piece of art, okay.

DP: Is this a process of just recall?

VW: I would say it is because I don't have it in here but another job that uses a globe but it is completely different again, it's embossed. And so the globe is a very common thing and it's extremely different when it is utilised in different ways. When I am given a new project I talk to the person who is going to be hiring me because ultimately during that period of time I am their employee and the most important thing, for every piece you see in here are twenty pieces that I would not put in here but my client was happy.

DP: How do you mean?

VW: I mean that sometimes I talk with a client and they want this and they want that, and they want that, and they want that, and they have very strong feelings about how it should look and what it's going to be and when that

happens... This was a process of that (shows brochure) I did this annual report with a client who had very strong feelings and I didn't feel that we really got on well and he wanted what he wanted and he is the one who is hiring me and he is the one who is paying the bill and he is the one who is going to tell everyone else whether I am easy to work with and good or not and so that is an important thing to me. I also feel that I work in a variety of industries and I don't know much about the industries, especially heavy scientific industries. I did a catalogue here for fuses. I know nothing about fuses. I did a catalogue for scientific furniture production. I know nothing about that and with this particular one they wanted the marketing people to use it and they put a lot of money into it so I asked if I could speak to a couple of the marketing people and they actually flew me from Chicago down to Austin, Texas, to meet with the marketing people who would be using this so that we could jointly come up with a concept they would be happy with.

Excerpt 2

DP:Did you do this alone? You are saying, 'we said'.

VW: Well, what I started with is: I sat down first of all with the PR director and he said, I am tired of the pictures of wheat and coins and bills. You can imagine, somebody who has no creativity says, well, you know this is an annual report lady we need to - you have to have the right mix. Then I hired a photographer, I had a lot of money for this and I had a lot of time and I hired a photographer who was just absolutely exquisite. This he actually moulded (she describes the photographic processes in the report and some other aspects of the finished product). They could use this as a promotional piece with no numbers and put other things in or they could use this as just a numbers piece

or they could use it as a joint piece. That is another part of the process that I feel is why people hire me is that I really enjoy the planning with my client, you know coming up with what is it you want to see this piece do, what is it that really needs... are you going to be doing long-term back up pieces that should fit into that. (She then talked briefly about another assignment and while turning the tape I asked her to describe step by step her work process.) We go in, we discuss the job, I give them a cost estimate on that particular project, indicate what it includes, what it doesn't include, then we sit down with a team of people interested in this, we all dicuss what it is, who the audience is, what kind of look they want, then I come back with some general sketches along with other produced pieces that are finished so they can bridge this transition between what their piece is going to look like and what a printed piece looks like. Then we begin to refine it and then they sign off on the written part and the design part then it is given to the printer. During that time I have picked out paper, specific paper for that and contacted a few printers to find out which printer equipment is most compatible with the computer disk that I am generating and if their presses are compatible with the paper I am using, because press sizes are more cost-effective with different papers. Then I finish the job. It goes to the printer, the printer does a proof. That proof is okayed by me for colour and design. It's approved by my client. We both sign off on it and then the final press run is there and during that time it is critical that I am there because sometimes colour can go wrong or something can be in the wrong place that nobody else would really notice (she then describes in further detail the importance of her being present at the printing).

DP: Initially, at the very beginning of this process, when you have done your talking, your consultation, there is this drawing (indicating the drawings)

which we will now come to and what you have described as a 'bridging process' where you show them the kind of thing this...

VW: Might look like. And this, probably because you had specifically asked me to save things, you will see why if I saved things for every piece that I did. This is for the Organization for Security and Cooperation in Europe (OSCE) and they are a sort of peace-keeping organization (she describes their function briefly and the languages used in the folder). The big challenge on this particular job was that they have this OSCE as their logo, right now this is their logo, just that OSCE and when it gets into Russian of course it looks different and so in different languages it looks different. Now that's a no with a logo, a logo should look exactly the same and so that's one problem with it and so it doesn't translate over languages and it's rather mundane and so they also asked me if I could come up with a concept that said, cooperation, building, you know.

DP: So they gave you some linguistic concepts ?

VW: Right. They told me what the organization does. They wanted to portray that they were east and west, north and south, they were European, they were central Europe, they incorporated a lot of different people, that they were a loose network organization that cooperates to create security. These are the sort of things they were telling me about .

DP: Would you make written notes?

VW: I don't know that I have the... you know funny enough I probably made less than a page of notes but I did make notes.

DP: And what form did these notes take?

VW: What I do, I always bring along my date book just with A4 pieces of paper in half and as they are writing I just put down even two or three words

that I think are all visual words. Visual to me. I am a very visual thinker. When you say cooperation, I right away think of linking, I think of weaving, I think of the Olympic symbol. Things like that come in when you say that and I just think in visual terms. When somebody answers the phone I get a visual image even though I have never seen the person, old or young, big or small.

DP: Do you ever draw at this very initial stage?

VW :Seldom. Once in a while I will. In fact, I just did last week, I was working with somebody from the UN who was hired to describe how the UN was consolidating and he had a chart of what it used to be and how it's consolidating and I said to him, you know that's such a strong visual image why don't we and then I said why don't we, I picked up a piece of paper, why don't we just take those, he had an organizational chart (she begins to draw) and I said we could use this as the cover design. I said you know we could start with the squares like this and then do the squares like this and then do the squares like this. I said that's such a beautiful visual image, we could even have them coming in a light colour and it gets fuzzy and then a deep colour could be set on... he wanted blue, I don't know why so I said maybe we can take a complementary colour and have it sort of green here and getting darker and darker and then let's use this image in the background throughout your report. It was a multiple page report, maybe sixty, seventy page report and I said that will give it a continuity. You I said, do you like that idea? Do you want to take your - because his chart had words in it and all this, so I said do you want to take just that because I think it's a strong visual. I don't often do that . So I said to him, you know do you like that idea because I thought ... he wasn't a visual thinker and I was worried that if I didn't re draw it he wouldn't see how that could be visually pretty by itself. And so once in a while I'll do that, but

generally, sometimes, I think that I stop their train of thought if I start doing things like that.

Excerpt 3

VW: You know when a carpenter puts something together and it fits well and this (indicating some of the initial drawings of the OSCE material) did promote quite a good dialogue about that this was too solid, this didn't provide flexibility. So that sort of thing. We talked about colours, we decided that the European Community colours were good because most of the constituency is within Europe or greater Europe so that it wouldn't be - as soon as you get into red and green you have certain nationalities that will not grasp that and automatically this is already - blue and yellow implies a consortium of many. This already ties into an idea of something which already has an idea of a consortium so these kind of things do provide more of a... These are my very first images right here.

DP: Based on what linguistic concept?

VW: Based on east and west, north and south, cooperation, loosely woven, creates security. Those were the words and so I kind of felt like even the parquet floor image, this is ..I was thinking well what is it that works together that creates a foundation and I thought of the parquet floor and I thought, even the size of the logo being the size of a flag.

DP: Would I be right in saying that some of your inspiration is the linguistic concept and some of your inspiration is the palpable world?

VW: Yes, definitely. Yes, absolutely. I am constantly collecting. When I am at a hotel and I see a soap wrapper and it looks interesting it's in my pocket, when I am walking through ...sometimes I'll buy a product I don't even

want because of an element of design on the label and those are just sort of ...often I'm not even thinking about a job I just have when something hits my mind and I think that might work interestingly in this.

Excerpt 4

DP: Linguistic concepts, what are their importance for you in the design process ?

VW: I think they are critically important because it says to me they want a light look, do they want a heavy look, do they want a slick look, do they wanta subtle look, do they want an understated look, do they want a very avant garde look and the words that they use say a lot to me about what kind of colourthey want. That was part of why, some of these (indicating drawings)... we came up with the idea that we wanted something round. We went through every one of these and we talked about the colour here. We talked about using the olive branches of peace symbol, we talked about the possibility of two different flags, we talked about having a number of squares that put together sort of .. you know because each one symbolizes the particular country that was involved in it .

DP: Can you tell me about the input from other people that you get in this process?

VW: Yes. Usually it's very interesting because one of the things I would love is for the people to say is 'I would like it to be more friendly', which sometimes they will say. Generally what they say is, the peace branch is too much used, I don't want something that's square, I don't like - I would say that 80 percent of what happens is criticism of the particular piece as opposed to input about new possibilities. So when somebody says the peace branch is too

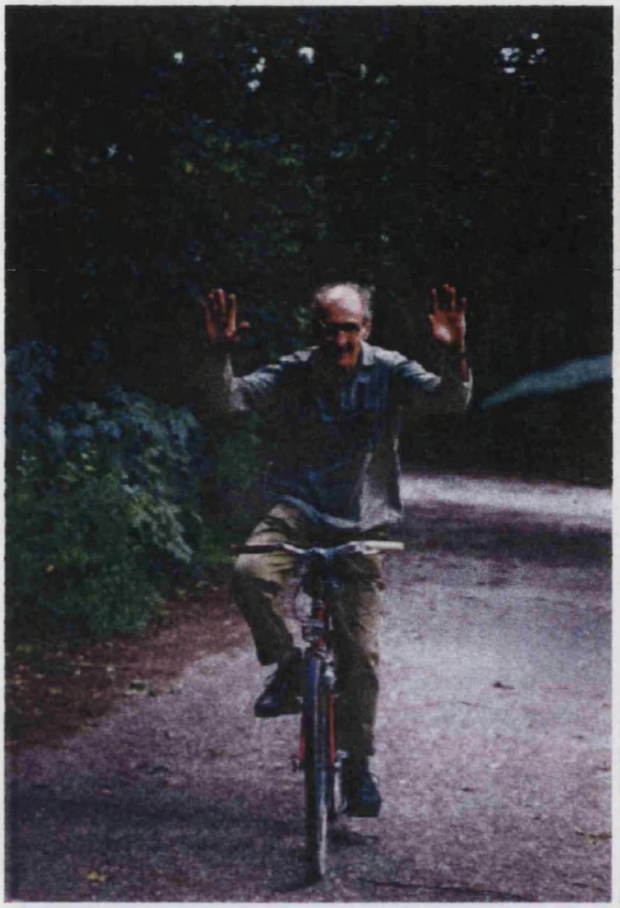
over used, then I will often say well, what kinds of symbols aren't so overused? What do you think of when you think of peace? It's their industry and so often they have metaphors that I am not even familiar with and that's why for me it's really critical that I am with these people trying to encourage them with these metaphors (returning to the drawings). I thought this was really quite clever because a good part of it is Islamic you see, so here is the Islamic part of it and then it's got the circular working together and it's the peace.

APPENDIX D

Photographs of Oswald Stimm, sculptor,
and views of his workspace.

Stimm and the author walking towards the studio buildings

Stimm talking about a sculpture to the author

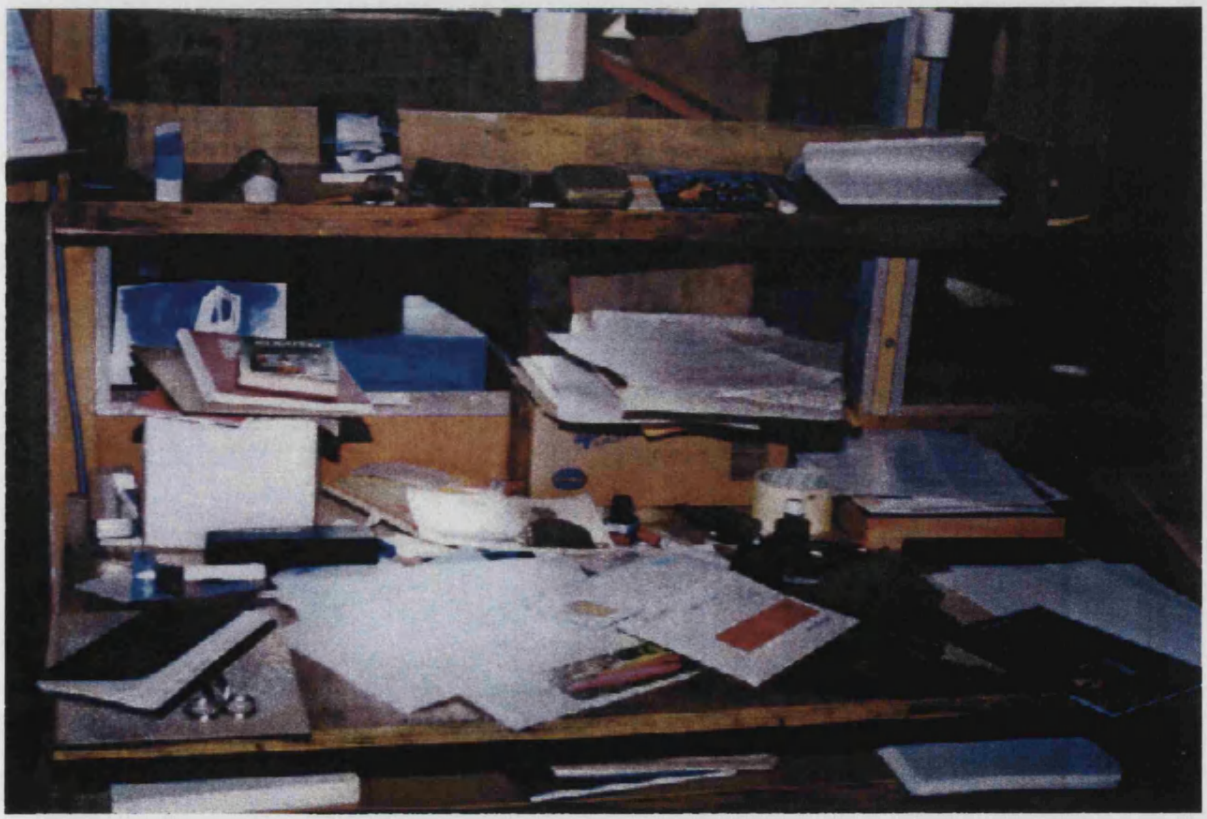


Stimm on his bicycle

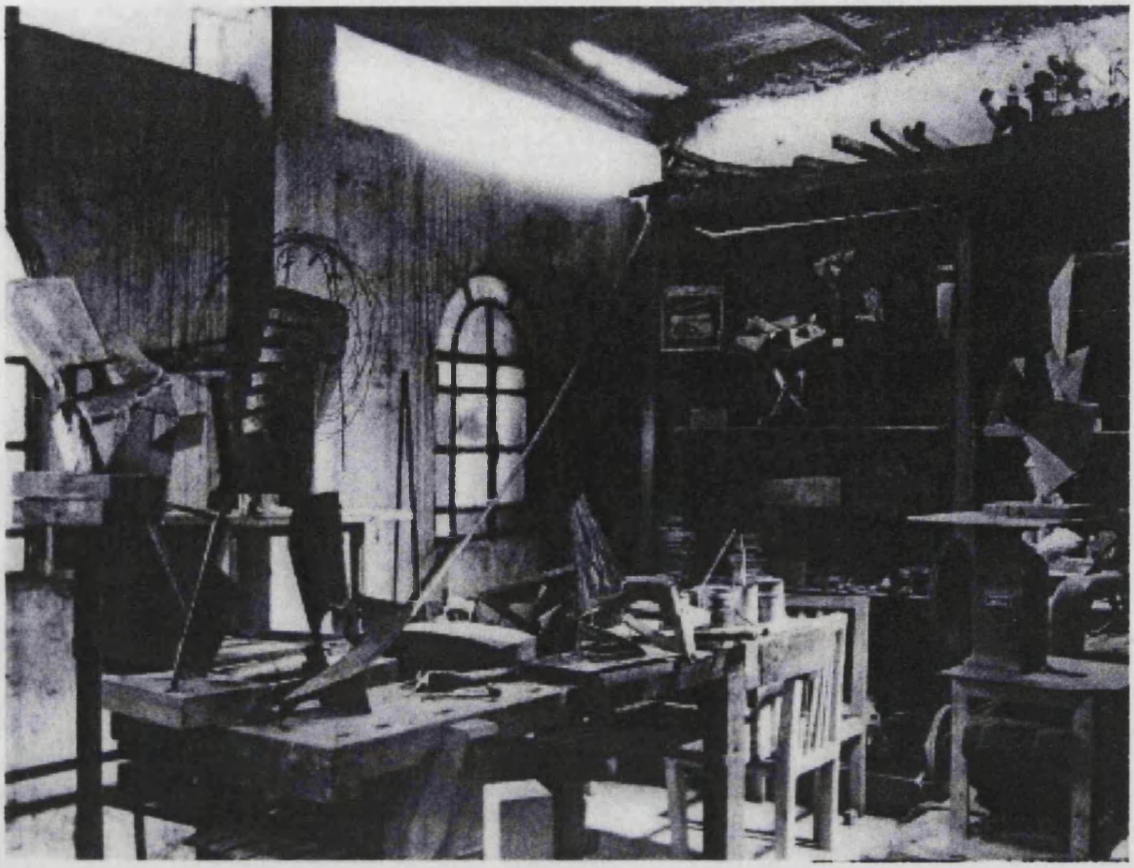
Stimm outisde his studio

Stimm's hands

A view of the work space from the front door



Central enclosed area

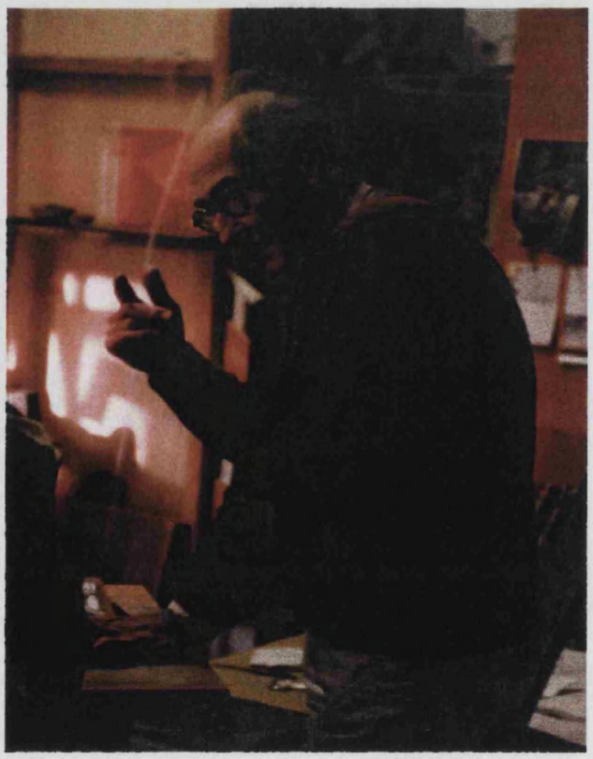


Stimm's workspace in Agentina

Part of the workspace viewed from an upstairs area showing the front door

Stove in the enclosed area with coffee cup's of Author and Stimm

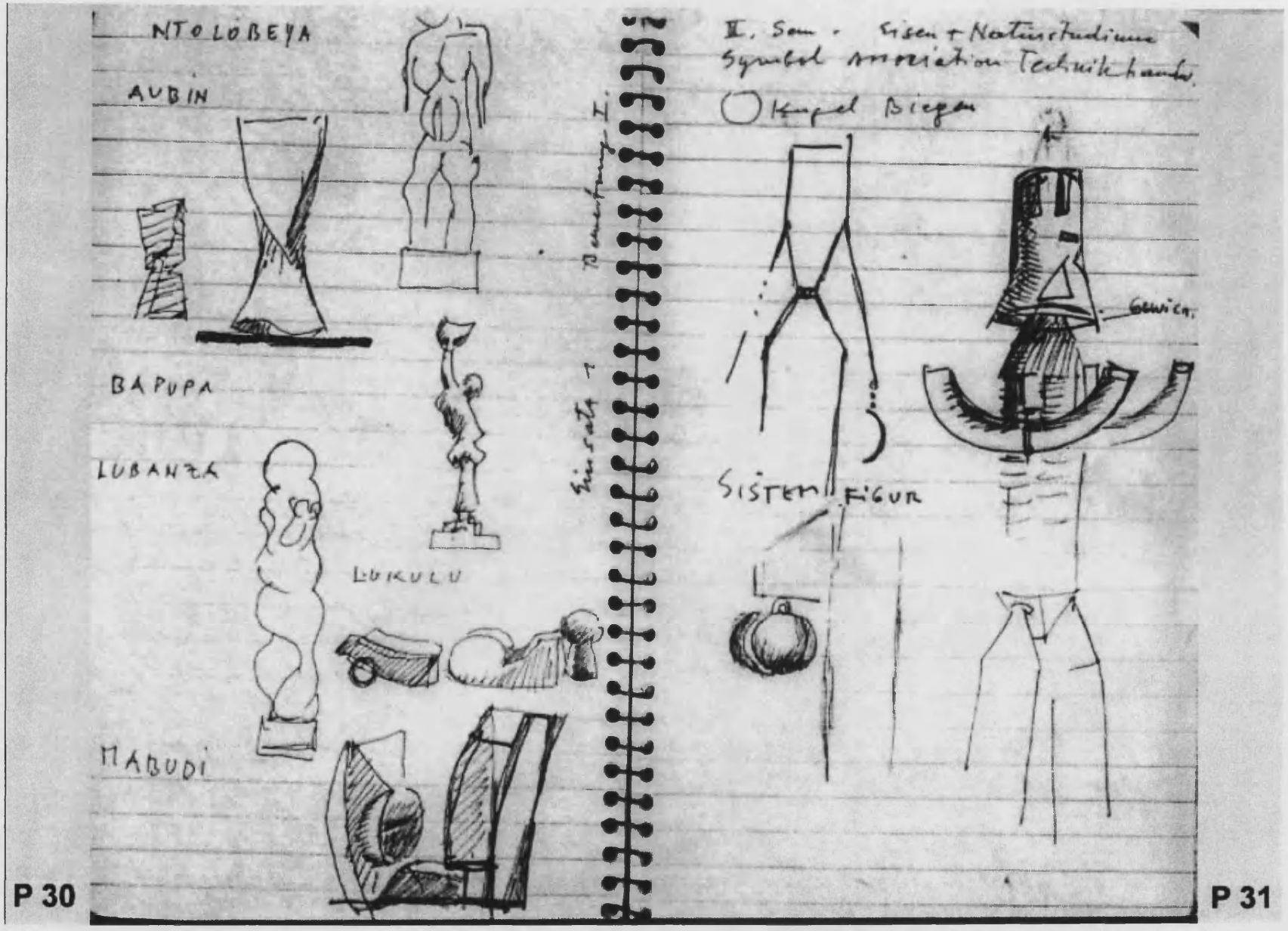
Outside area

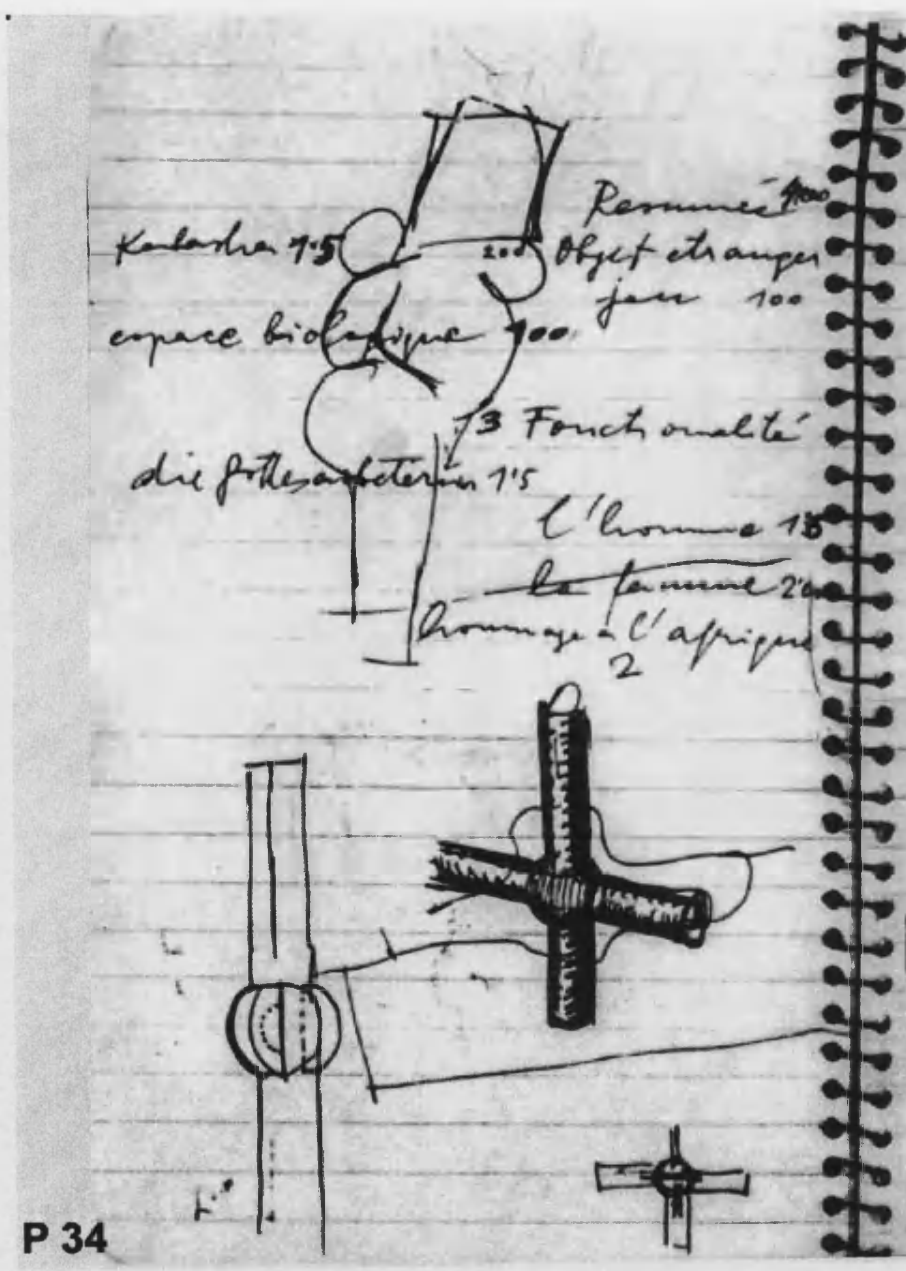


Stimm talking about his work

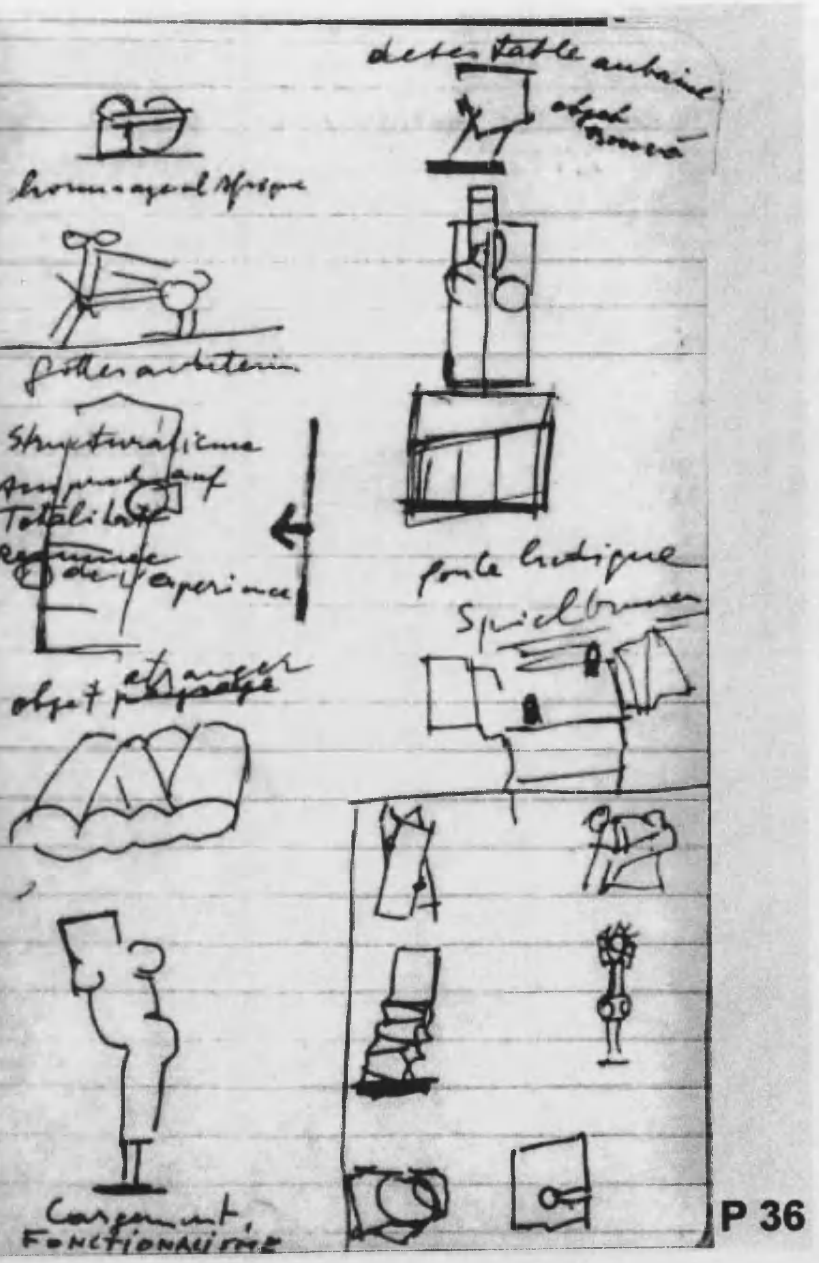
APPENDIX E

Selected pages from one of Oswald Stimm's note\sketchbooks


NTOLOBEYA
AUBIN
BAPUPA
LUBANZA
LUKULU
MABUDI
P 30
II. Sem. - Figur + Naturstudium
Symbol Assoziation Technik
Kugel Biegen
SISTEM FIGUR
P 31


Kalachas 7.5
Rammeé 100
Objet étranger jaune 100
espace biologique 100
3 Fonctionalité
die Fühlerarbeiterin 7.5
l'homme 15
la femme 20
Hommage à l'afrique
2

P 34


Hommage à l'Afrique
Fühlerarbeiterin
Strukturalisme
Totalité
Rammeé
objet étranger
Carrément FONCTIONNALISTE
Spielbrunnen

P 36

AUSGABEN SCHWEISSEN

27'64

1 MANOMETRE OXYGENE	17	
1 PAIR DE LUNETTES.		
PROFIL de Fer pour Table 8.1.74	5'90	
2 Tubes pour conduct	4'74	
PATA NOISCHUSS	1'	
" "	+ 5	
(Pata Total 43'80 Z)		
Ferroplomb (Minium)	4'.	
48 kg. dechets (Alteisen)	7'20	
LIME	1'46	
BROSSE	0'38	
KÜBEL	1'60	
Eisenkauf (Tür	20'50	
Schloss "	5'90	
Transport	2'50	
Avant (Tür	8.	
Rest " Tür	22.00.	

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SPITZEISEN FERUNION	2'14	✓
RASPEL	1'80	✓
Kl. Feile	80	
Eisensäge	2'00	✓
Disque de tronçonneuse	1'30	✓
7 Diamo feuilles table	25	
2 feuilles emeril	21	
1 Schlosser	4'53	✓
1 Säge	82.	✓
3 Tapeblätter	18	✓
~~Transport des Fers zur Schall 2.50~~		
7 Planches Hola	1.07	

50 Z v. Alfred Schlosser am. 20.1.74

✓ gas 1. Ladung ~~Schlosser~~ Schlosser

✓ gas 2. Ladung 19'50 bez

gas 3. Ladung 17.

✓ " Oxygen volo ½ " 6'73 am. 13.4.74

✓ Acetylen volo 20. ~~7.5.74~~

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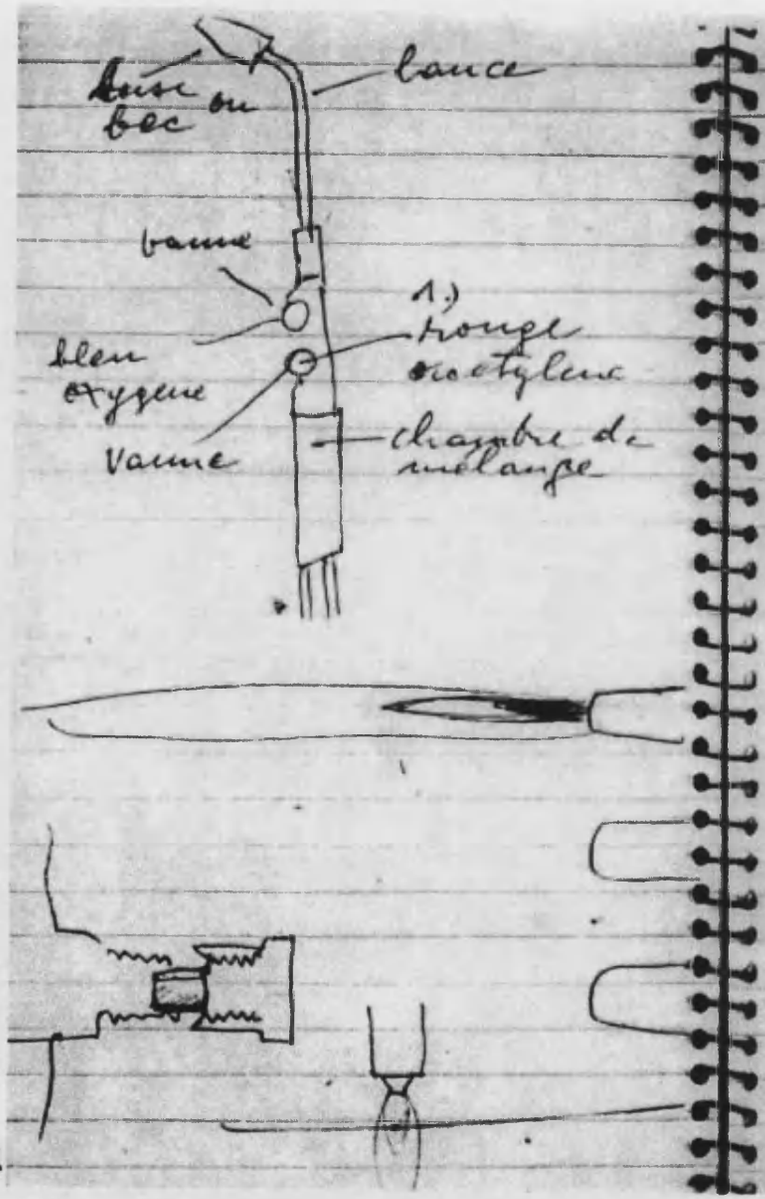

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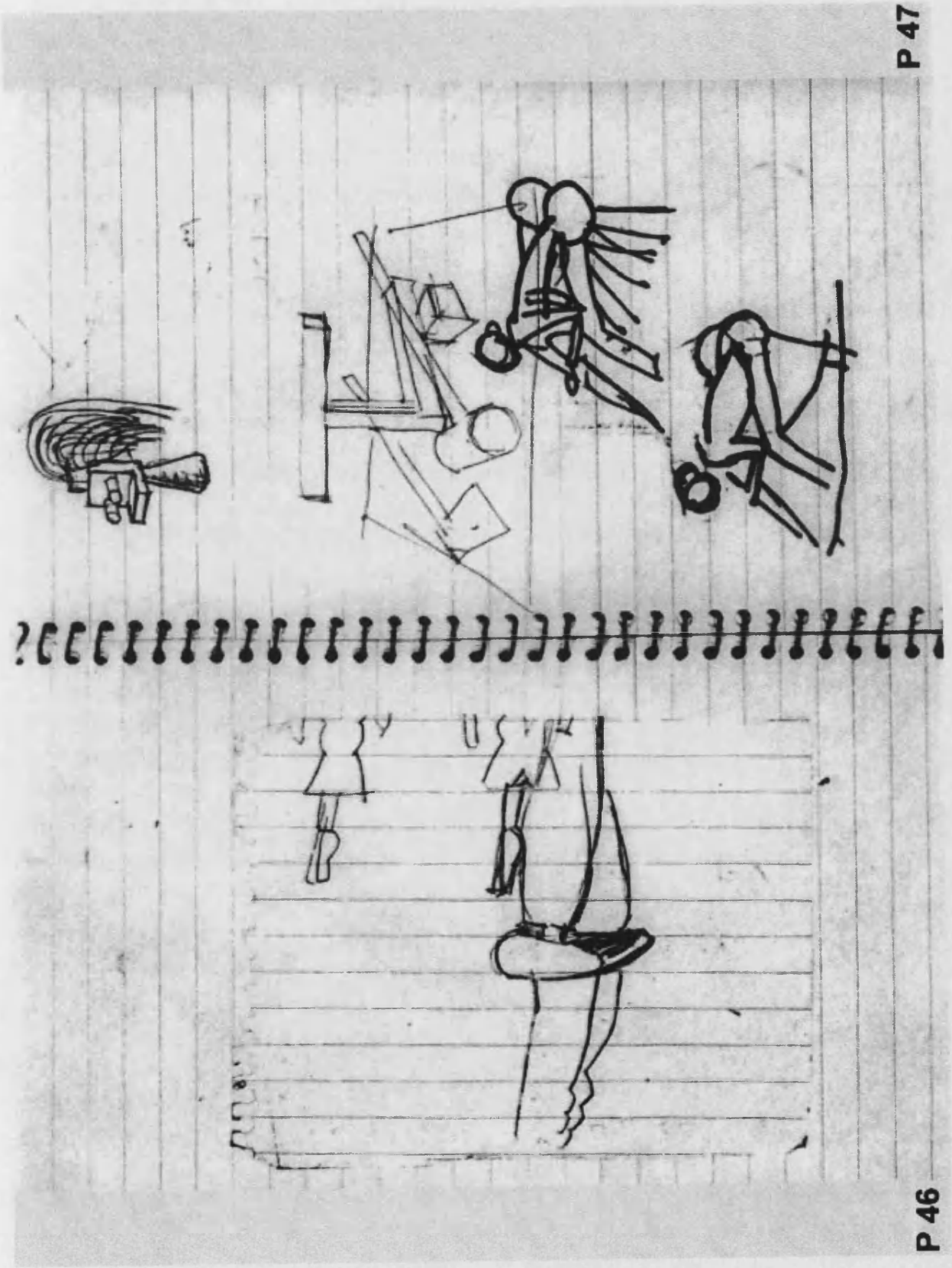
acétylène : gaz combustible
(C_2H_2)
carbone Hydrogène

oxygène : gaz comburant
(qui entretien la combustion)
Il le renferme 4/5 d'azote, qui ne participent pas à la combustion mais abaissent la chaleur dépagée

AIR - oxygène
azote
gaz rares

N.B Un volume d'oxygène + 1 volume d'acétylène alimente le chalumeau donne une flamme ayant une t° maxima de 3100° C qui est la flamme la plus usuelle de toutes

P 45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INVENTAR

Hemd Paraguay - indisch weiß - Wenn gestreift - blau - schwarz - beige/braun

Hose - Gelbgrün - Blue jean - beige - Short

Schuhe schwarz - braun - Kampfstiefel Sandalen

U Hose

U Hemd

Schal v. Henny

Socken 8 paare

1 gelbe jean

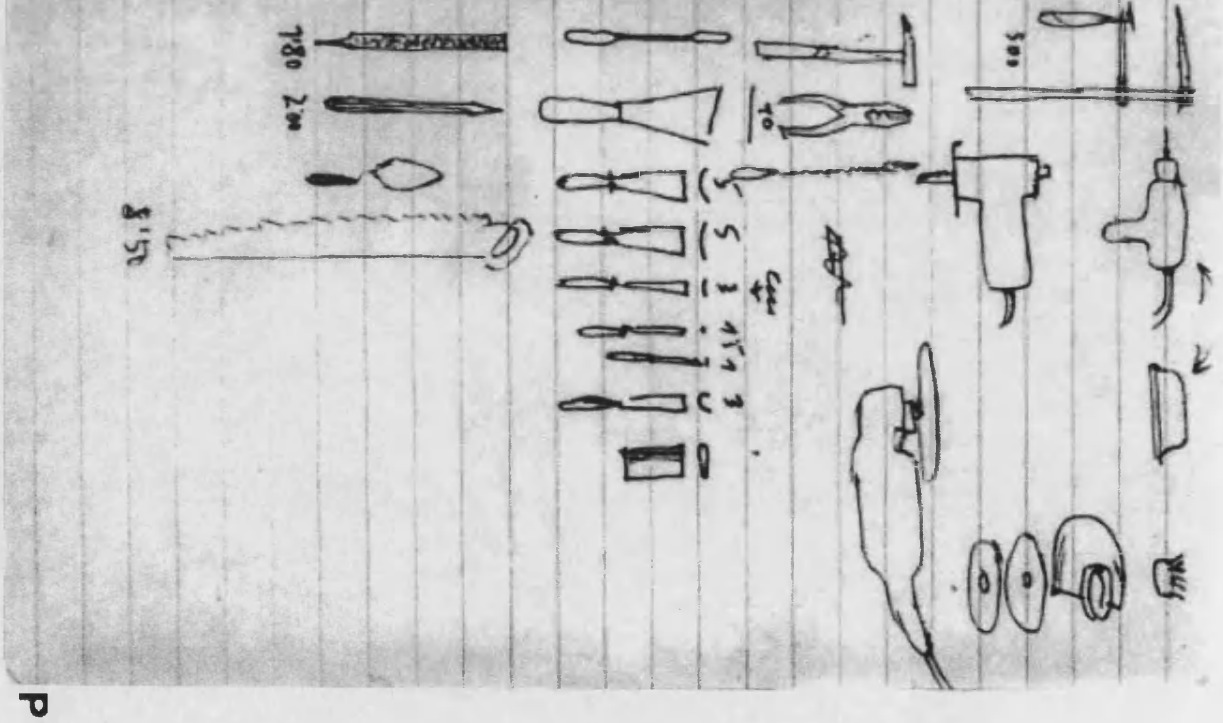
1 lange Outdoorjacke

1 kurze "

1 Fleecepulli beige/schwarz

1 roter Pullover/hemd v. Bo. Ab.

1 weißer Pullover v. R. Ab. kurzärmelig



P 53

SCHWERKRAFT ist die SPUR des GEISTES in der MATERIE (Thomas Mann)

P 62

man kann ein Thema so behandeln daß es tofort und nur als Thema erfaßbar ist. Das wäre ein geistiger Trend der in der neuen Skulptur herstellbar ist. (Oft ein dialektisches Thema). Aber eine gewisse incommensurabilität gehört zum größeren Bereich einer Plastik. Diese Dimension ist nicht vermittelbar oft in einer flüchtigen Skizze eher enthalten als im fertigen Werk. (Radierzeichnungen sind ein gutes Beispiel wie sich eine bare Imponderabilität sich überschneidender Linien jene Tonen zum lebendigen Organismus werden lassen für die die Potenz des Künstlers maßgebend ist der in der Tiefe ist ein Kunstwerk hervorbringen.

23.12.91

KÜNSTLER = MEMBRANE
= OSMOSE
= VERMITTER
= DURCH
= FILTER

P 63

Sanclien (Côte d'Or)
Mont St. Vincent (Saone et Loire)
Verdelay (Yonne)
Paray le monial (S et L)
Cluny (S et L)
Ahuy le Duc S et L)
Chalonnes S et L
Autry [illegible] Sconds (Allier)
Autun (Saint Lazare)
Semur en Brionnais (S et L)
Saint Julien de Jonzy
Charlieu ?
Beaune

= POITOU =
Rencenne
Poitiers
St. Maurice Vienne
Les salles Lavaugaon
Dirac (Charente)
Salles Ber Rulnay (Charente Inf.
Tercenne (Charente)
Saint Jouin de Marnes Deux Sevres
Bordeaux
Civray (Vienne)
Aulnay

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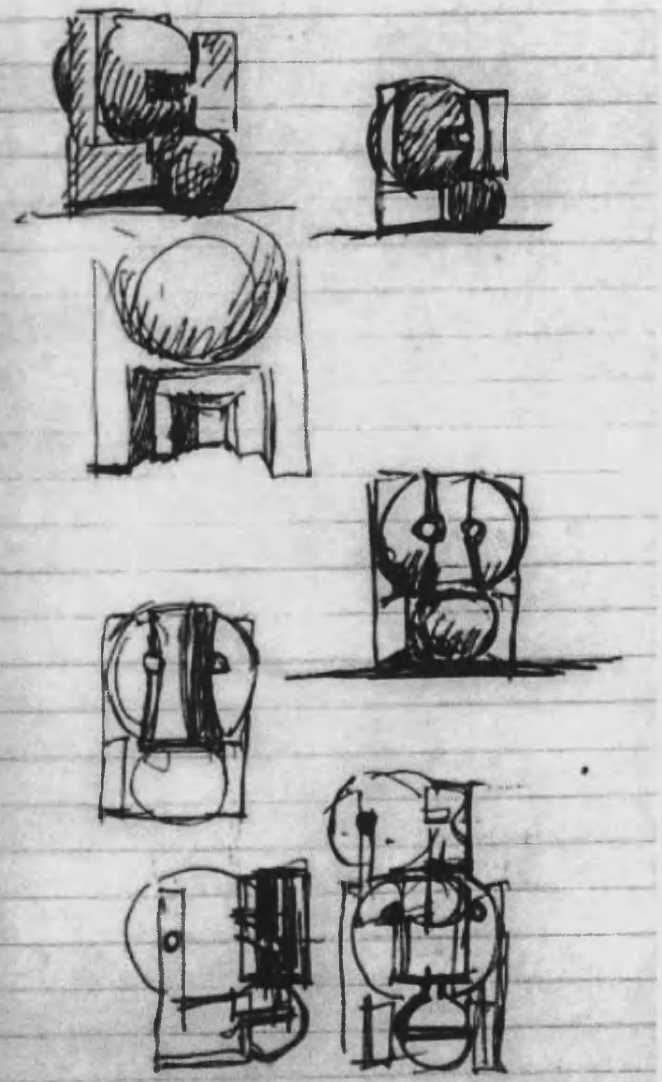

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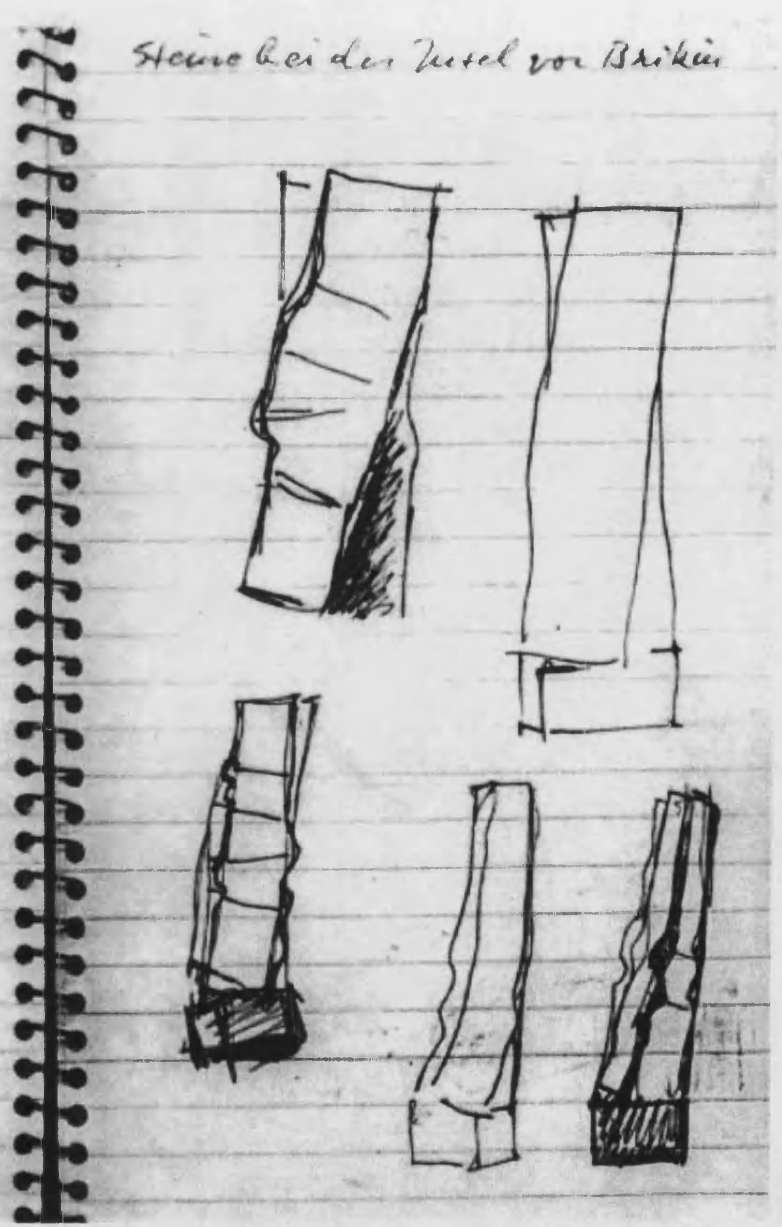

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Figures

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Figure 4, Drawing by Michelangelo, in Ackerman, 1961, p.24.

Figure 5, Central panel of a tryptch painting by Francis Bacon, in Ades and Forge, 1985, p.81

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Figure 29, Manuscript page and transcription of a poem by T.S.Eliot, in T.S.Eliot, 1971.

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Figure 32, Diagram of the Semiotic Square.

Figure 33 & 34, Manuscript pages of poems by Alexander Pushkin, in Zavlovskaya, 1987, p.76 and 77 and p.180.

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Figure 54, Photograph of a wall in Alberto Giacometti's studio, in Sylvester,1994, pp.52 and 53.

Figure 55, Photograph of Francis Bacon in his studio, in Peppiatt and Lloyd,1999, pp.64 and 65. Photograph by Jessica Fernandez.

Figure 56, Doodle in possession of the author.

Figures 57, 58, 59, 60, Drawings by grade 6 pupils.

Figure 61, Diagram of Curriculum Model.

Figure 62, 63, 64, 65, 66, 67, 68, 69, 70, Drawings by pupils in grade 9, 11 and 12.

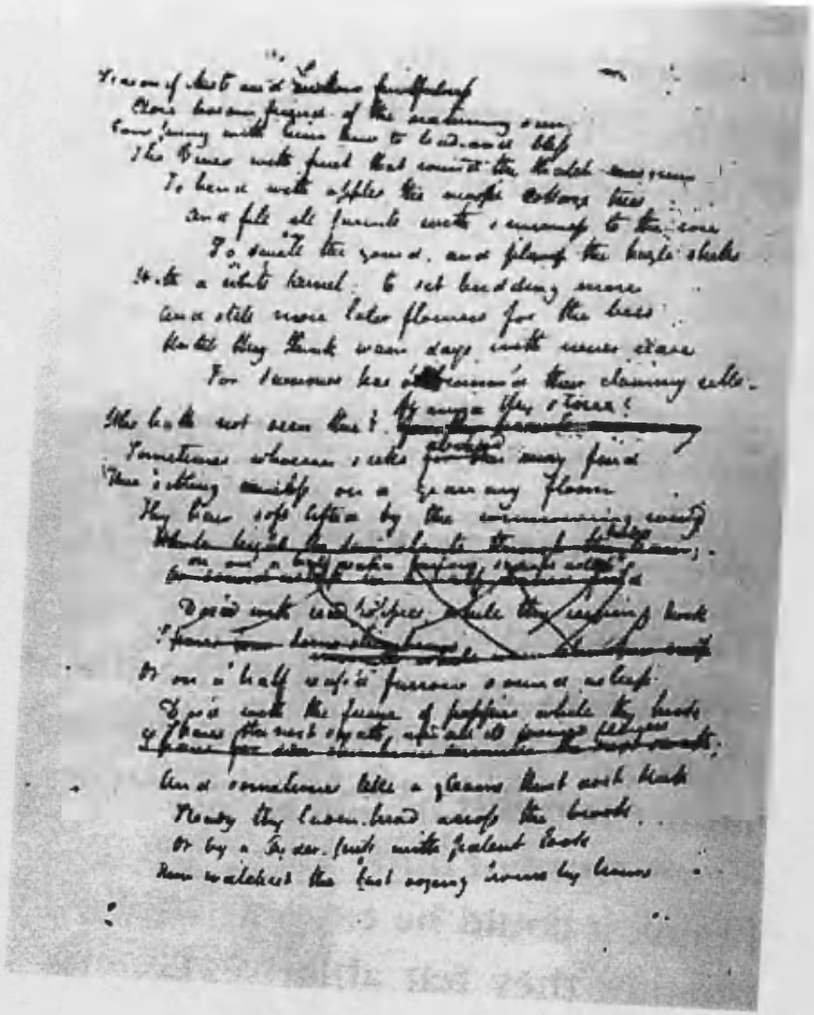


Fig. 2

Fig. 3

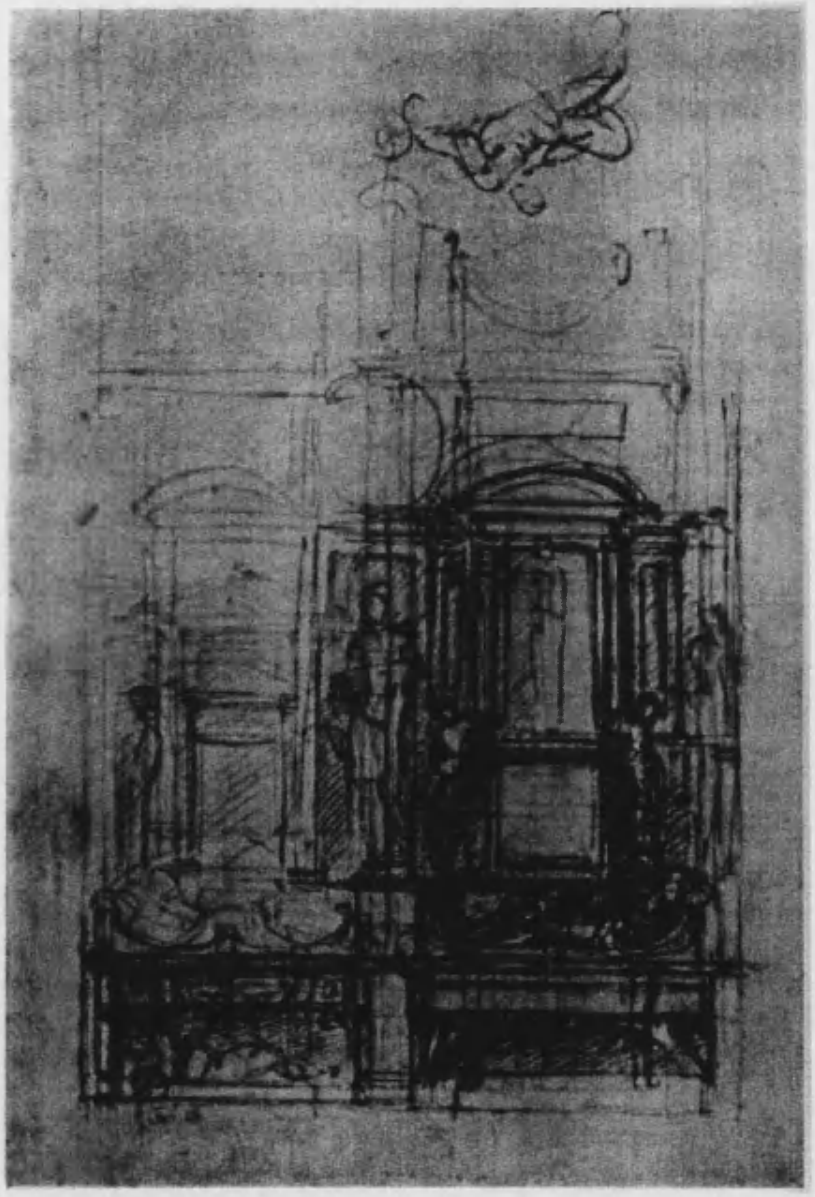


Fig. 4

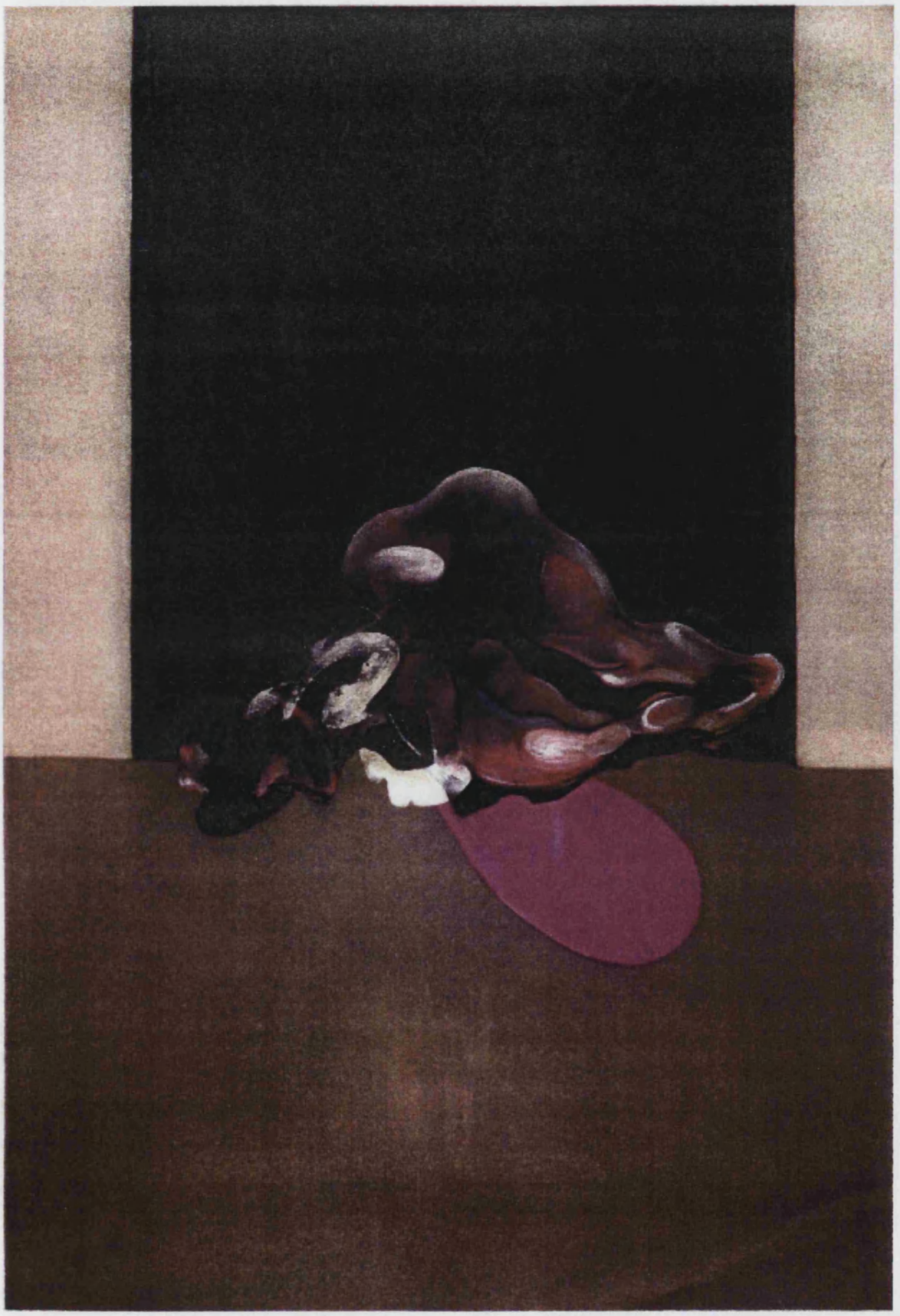


Fig. 5

Fig. 6

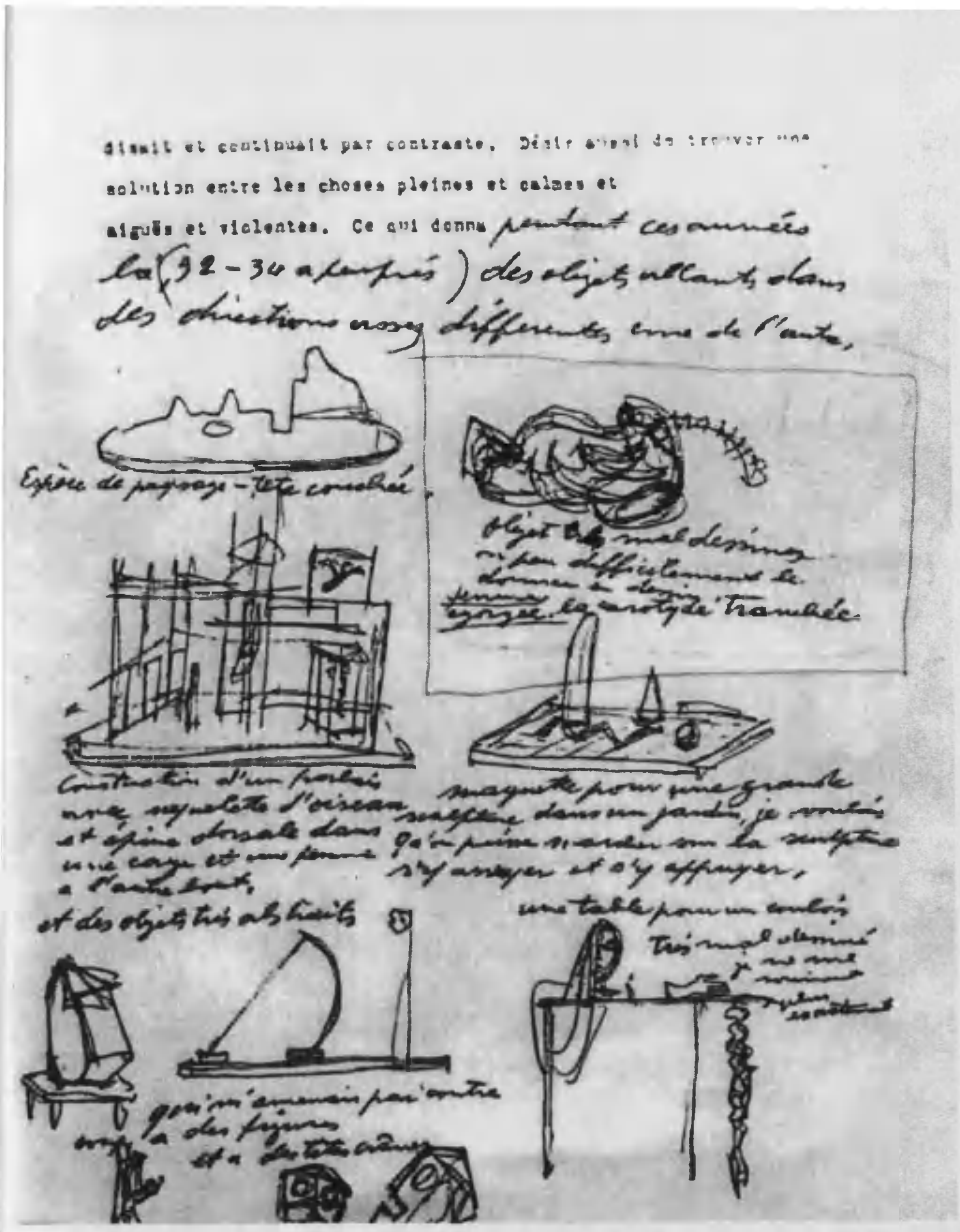

dissait et continuait par contraste. Désir ainsi de trouver une
solution entre les choses pleines et calmes et
aiguës et violentes. Ce qui donna pendant ces années
là (32 - 34 à peu près) des objets allant dans
des directions assez différentes, une de l'autre,
Espèce de paysage - tête couchée.
Construction d'un portail
avec squelette d'oiseau
et épine dorsale dans
une cage et une femme
à l'autre bout,
et des objets très abstraits
qui m'amènent par contre
à des figures
et à de la tête d'âne
magnète pour une grande
sculpture dans un jardin, je voulais
qu'un puisse marcher sur la sculpture
s'y asseoir et s'y appuyer,
une table pour un couloir
très mal dessiné
je ne suis
pas encore

Fig. 7

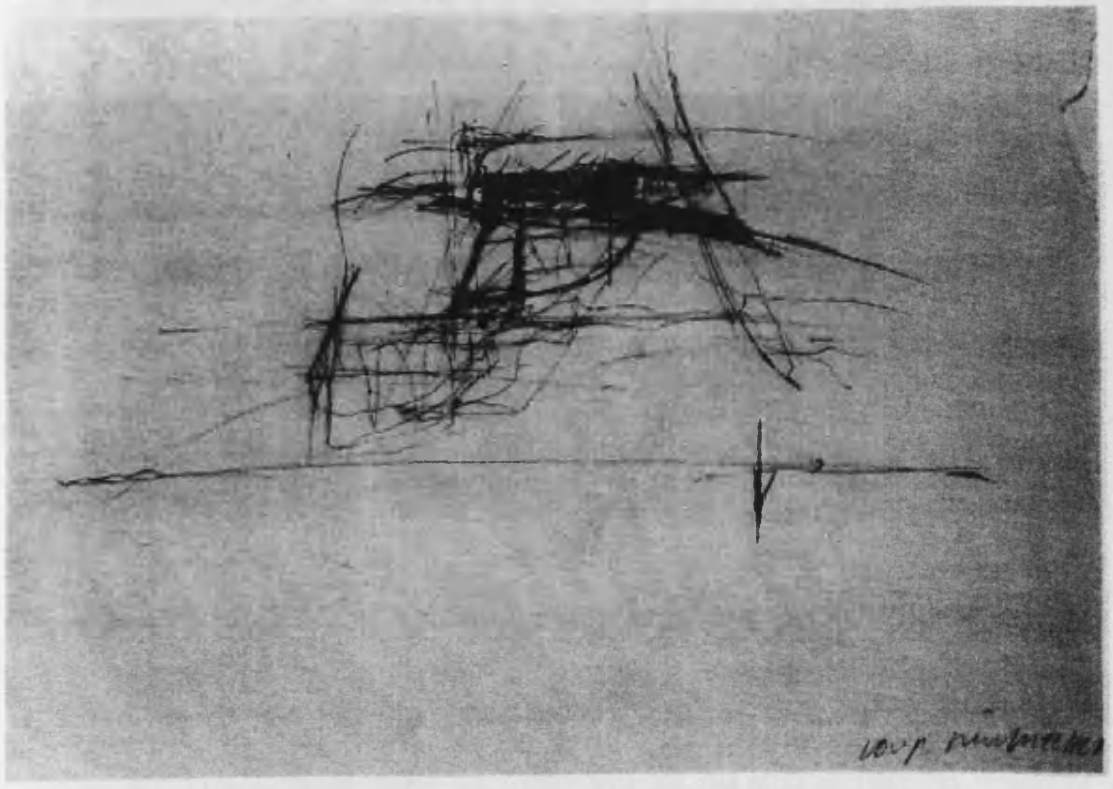


Fig. 8

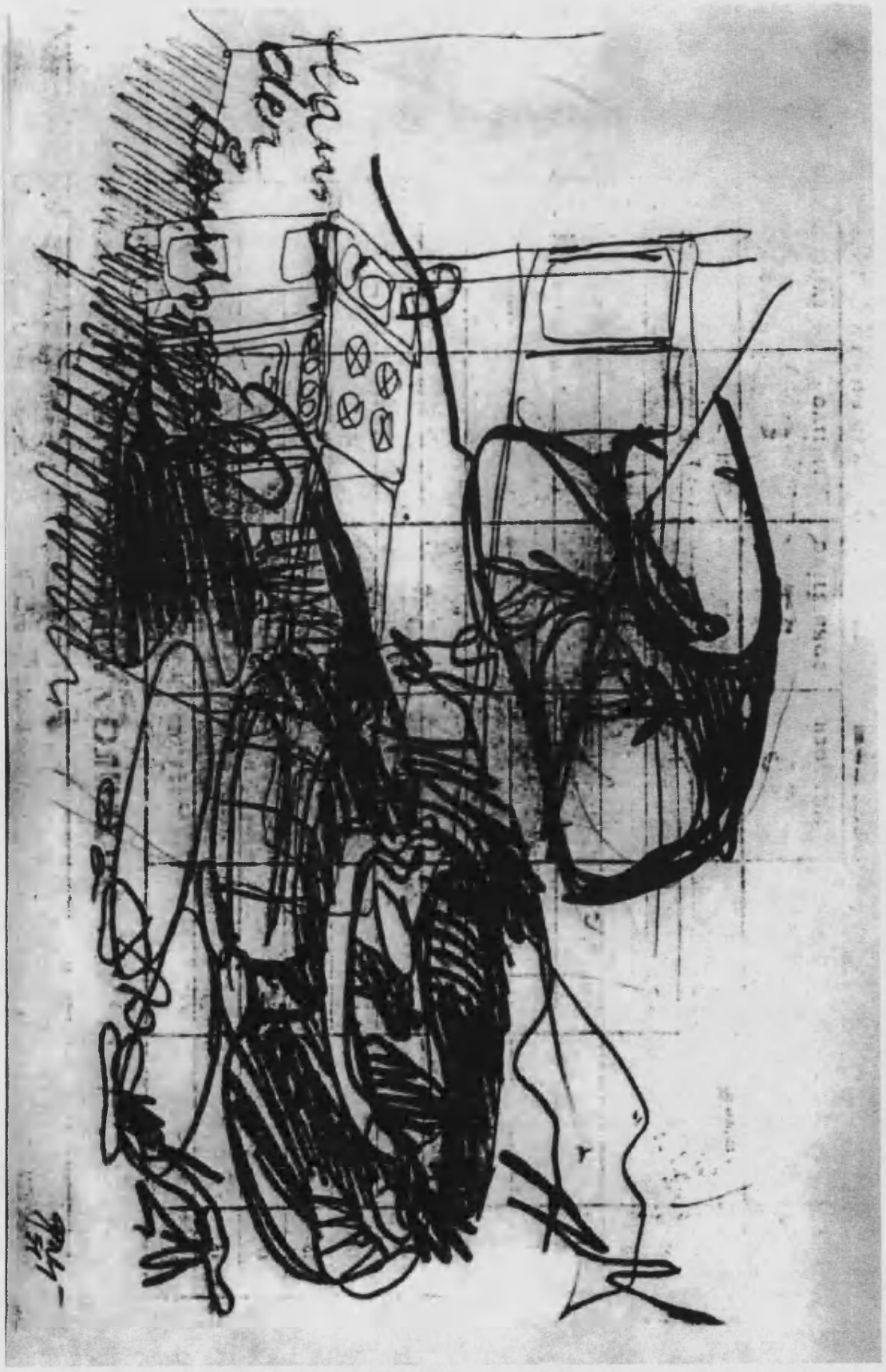


Fig. 9

Fig. 10

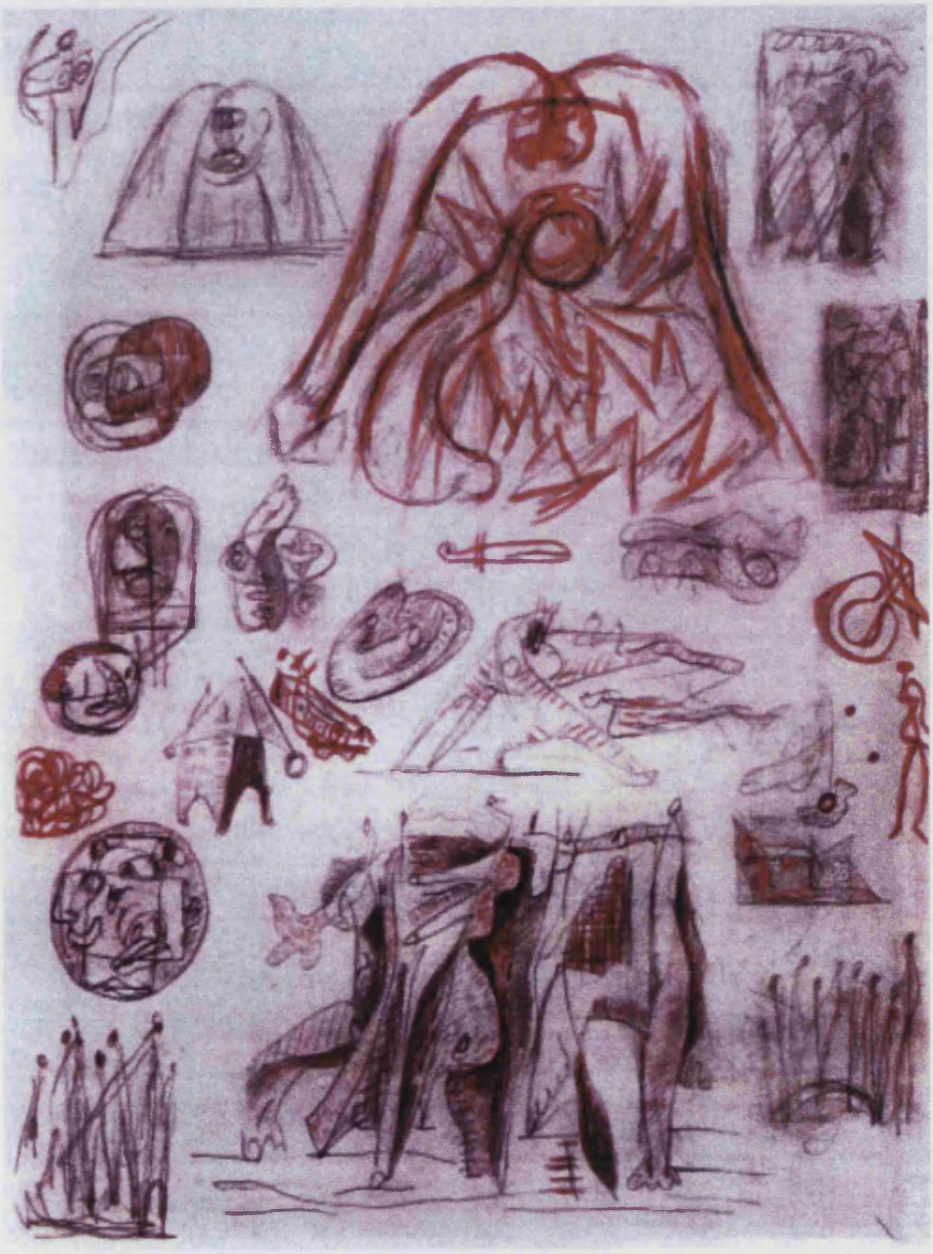


Fig. 11

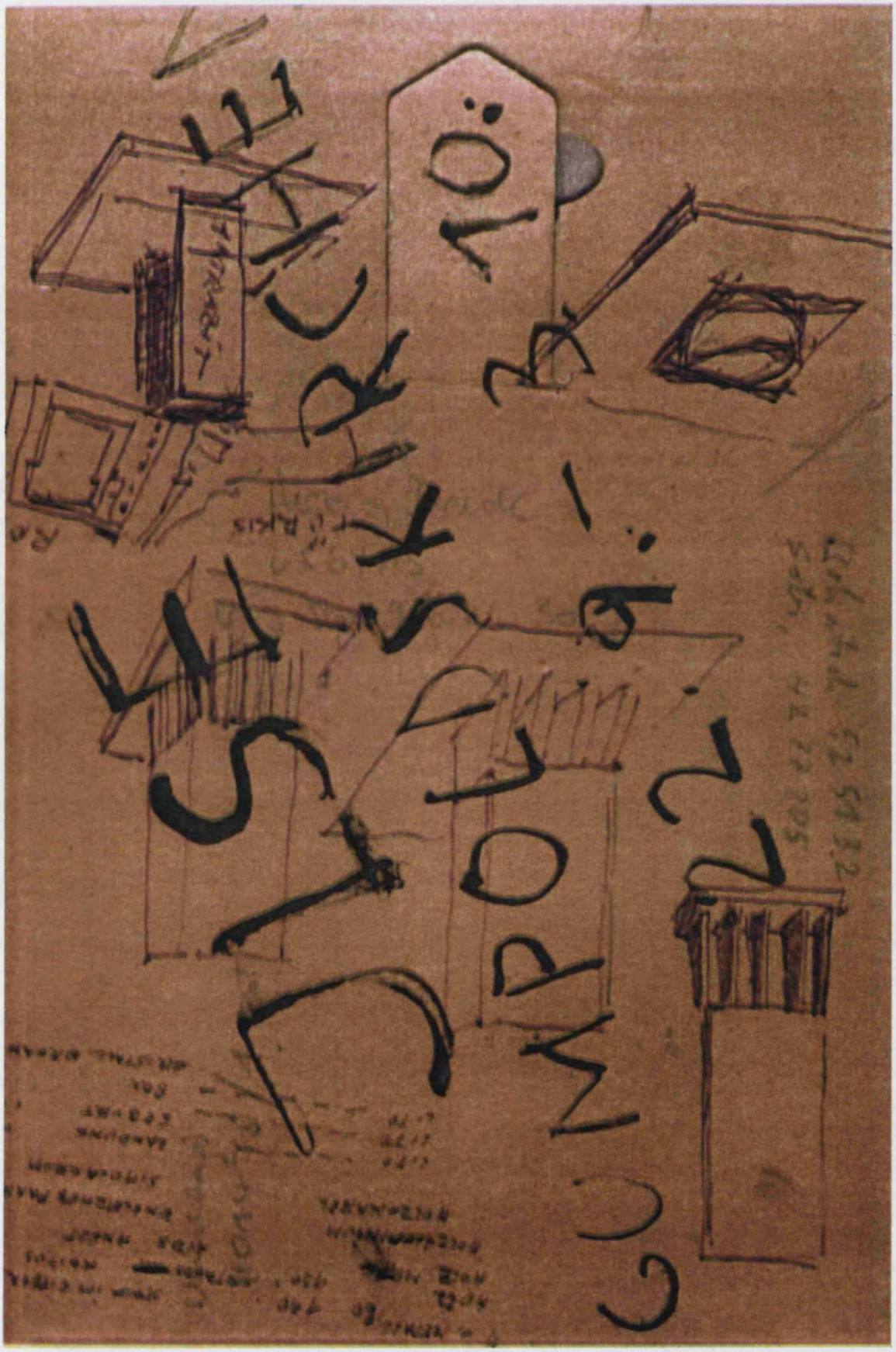


Fig. 12

Fig. 13

Fig. 14

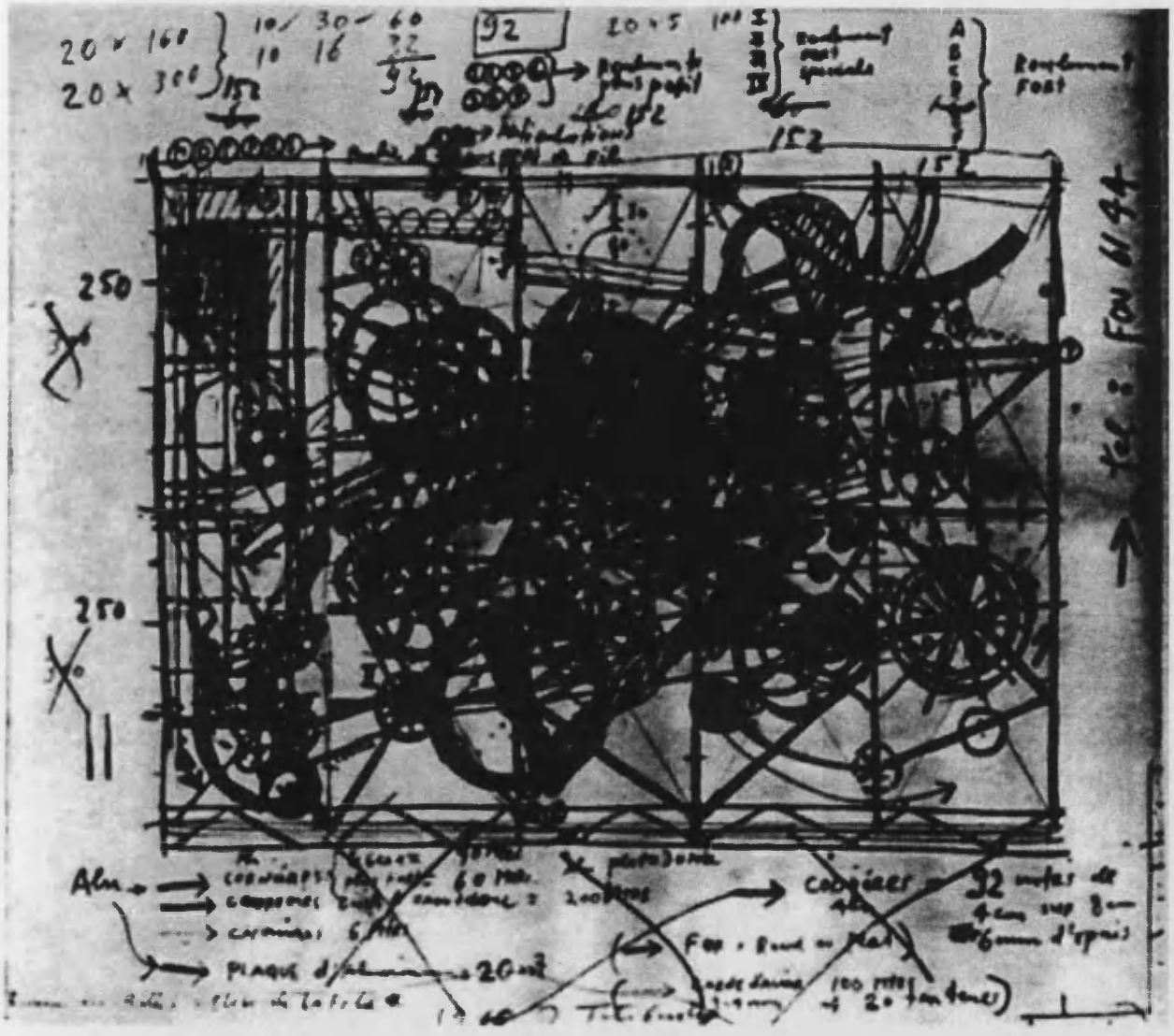


Fig. 15

Fig. 16 a

Fig. 16 b

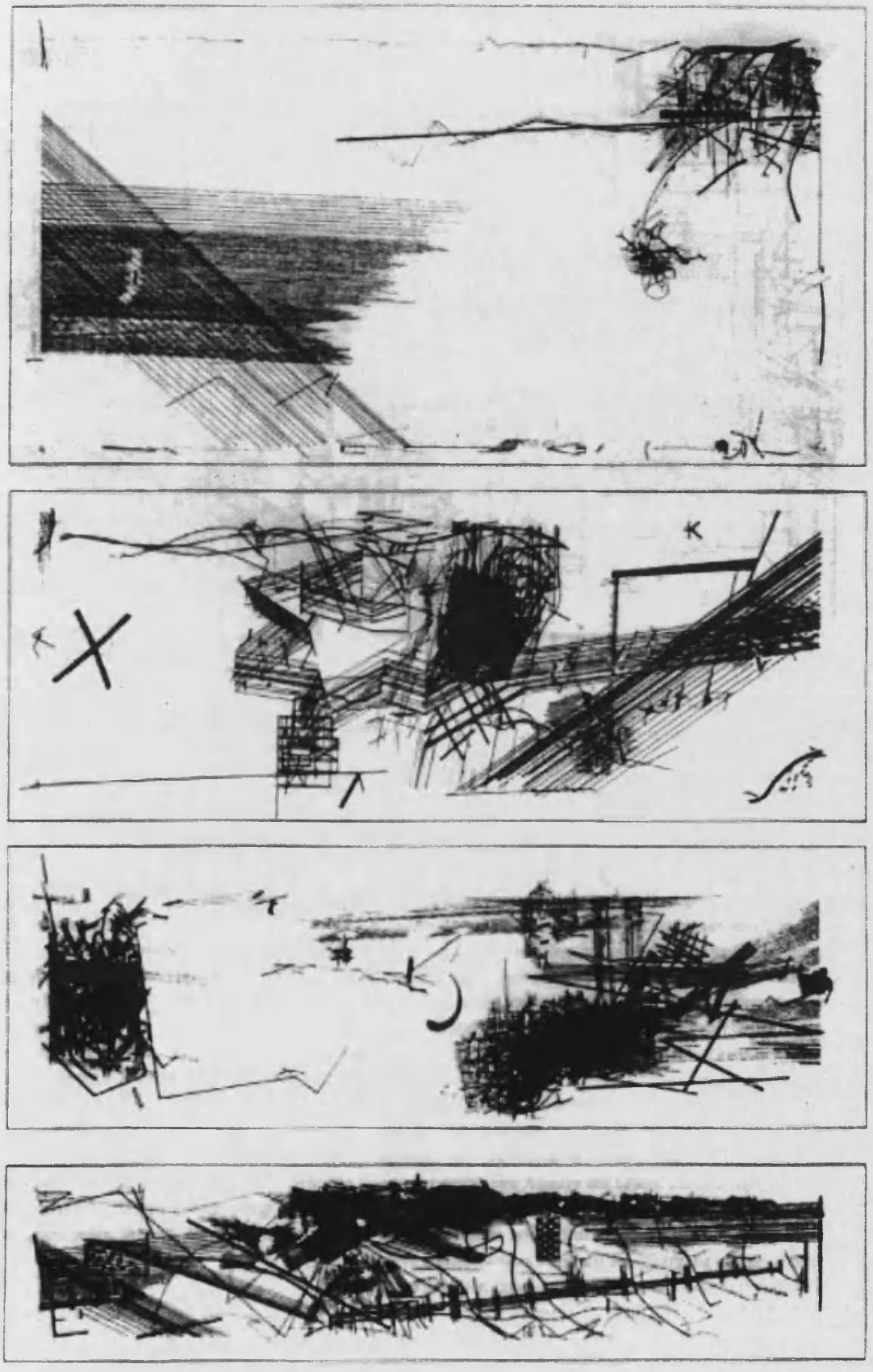


Fig. 17

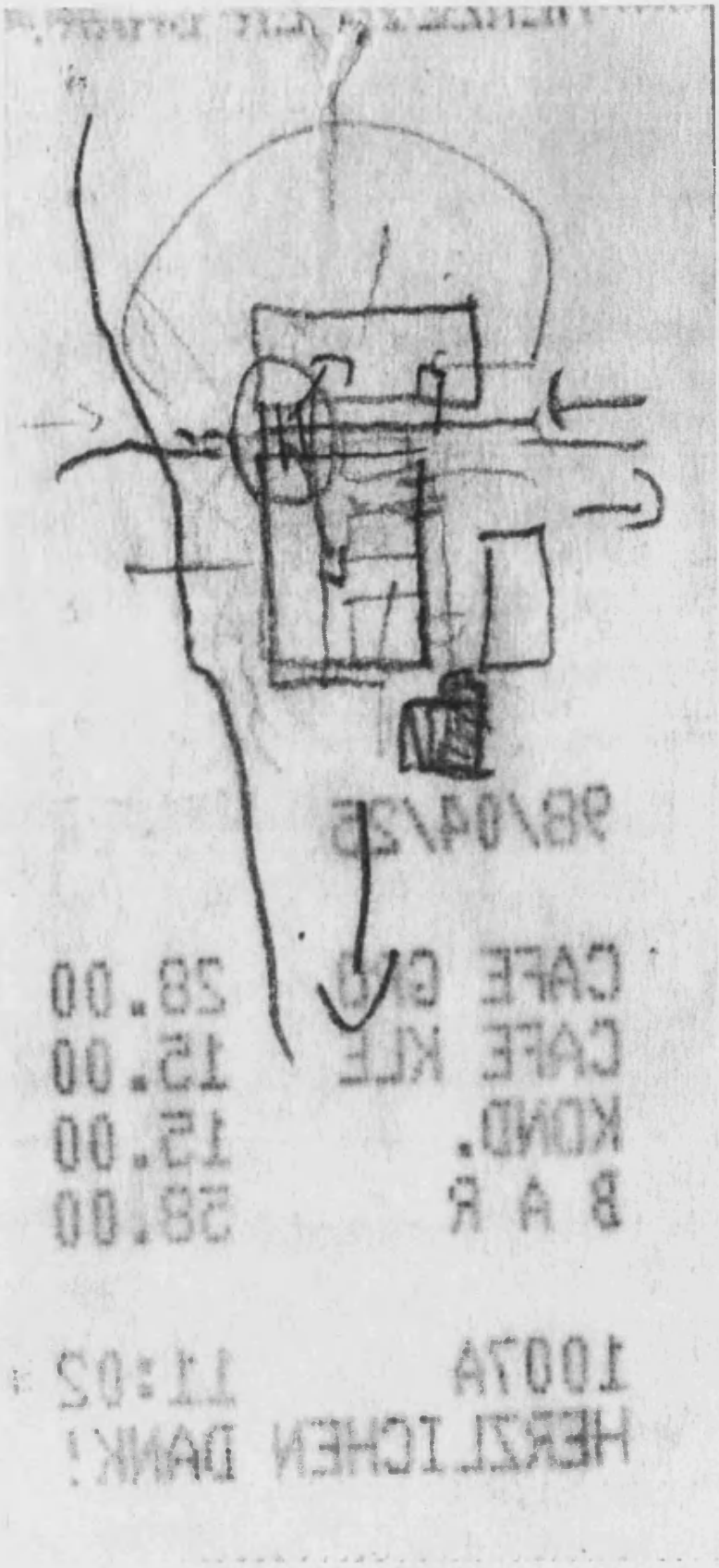


Fig. 18

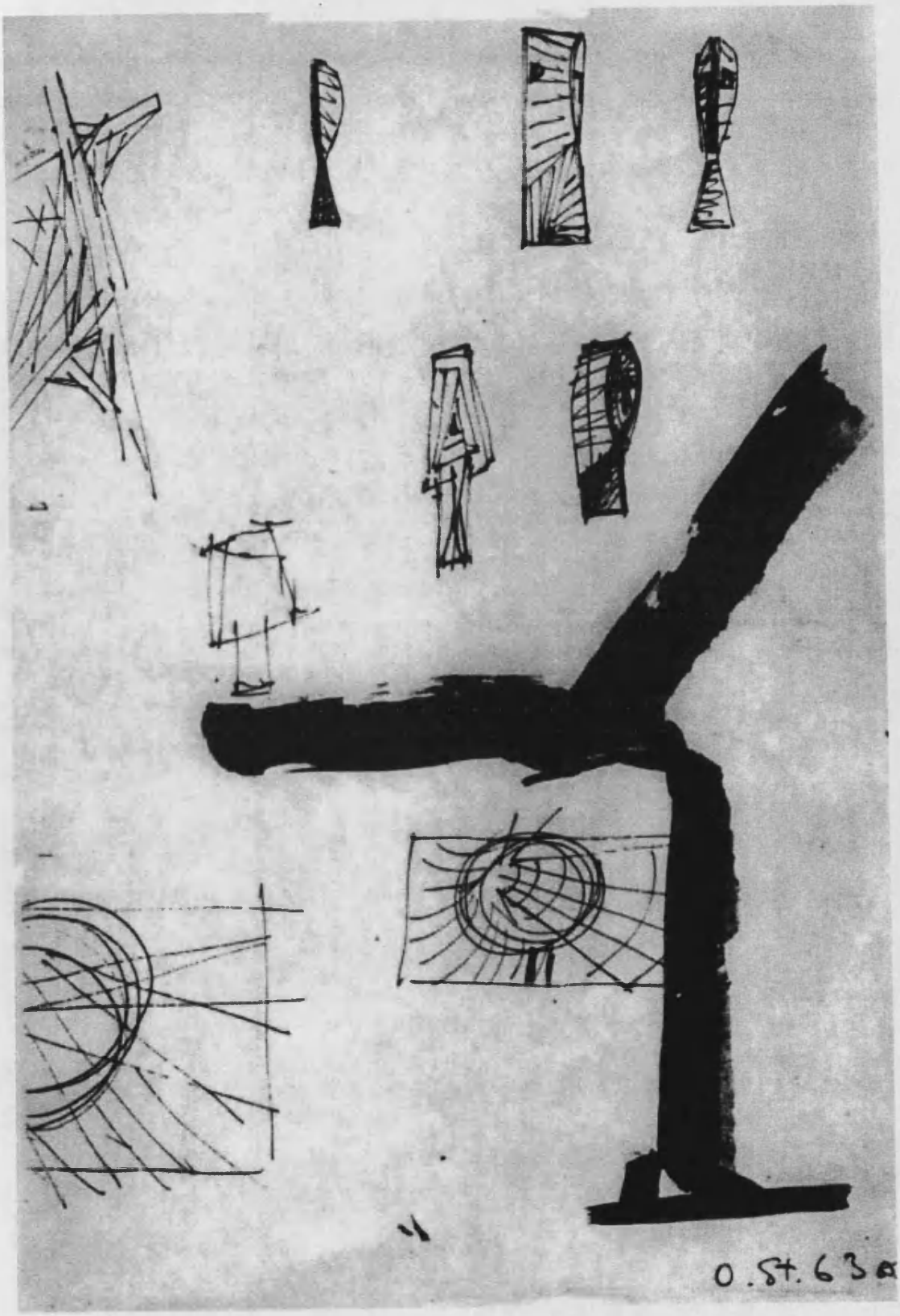


Fig. 19

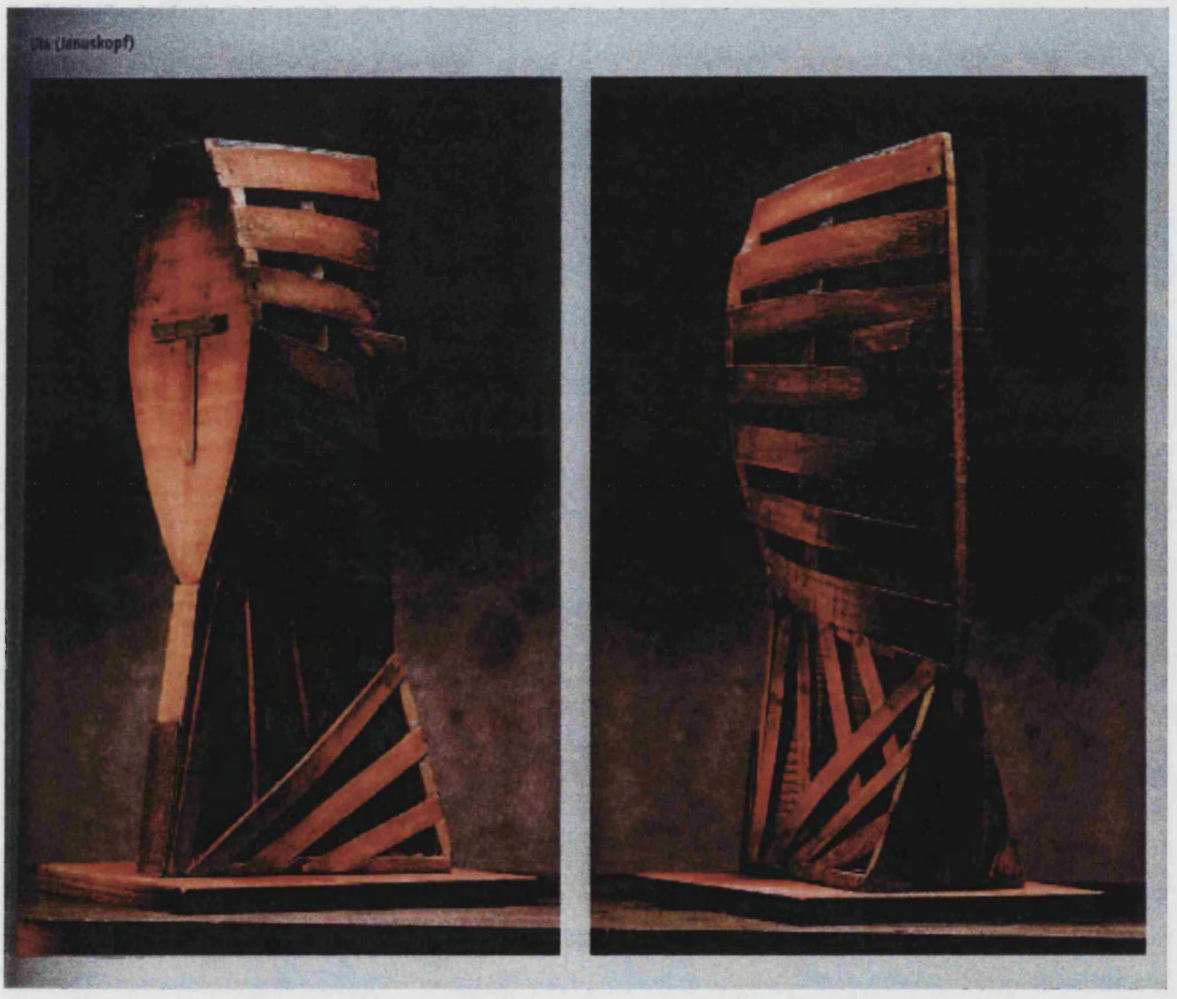


Fig. 20

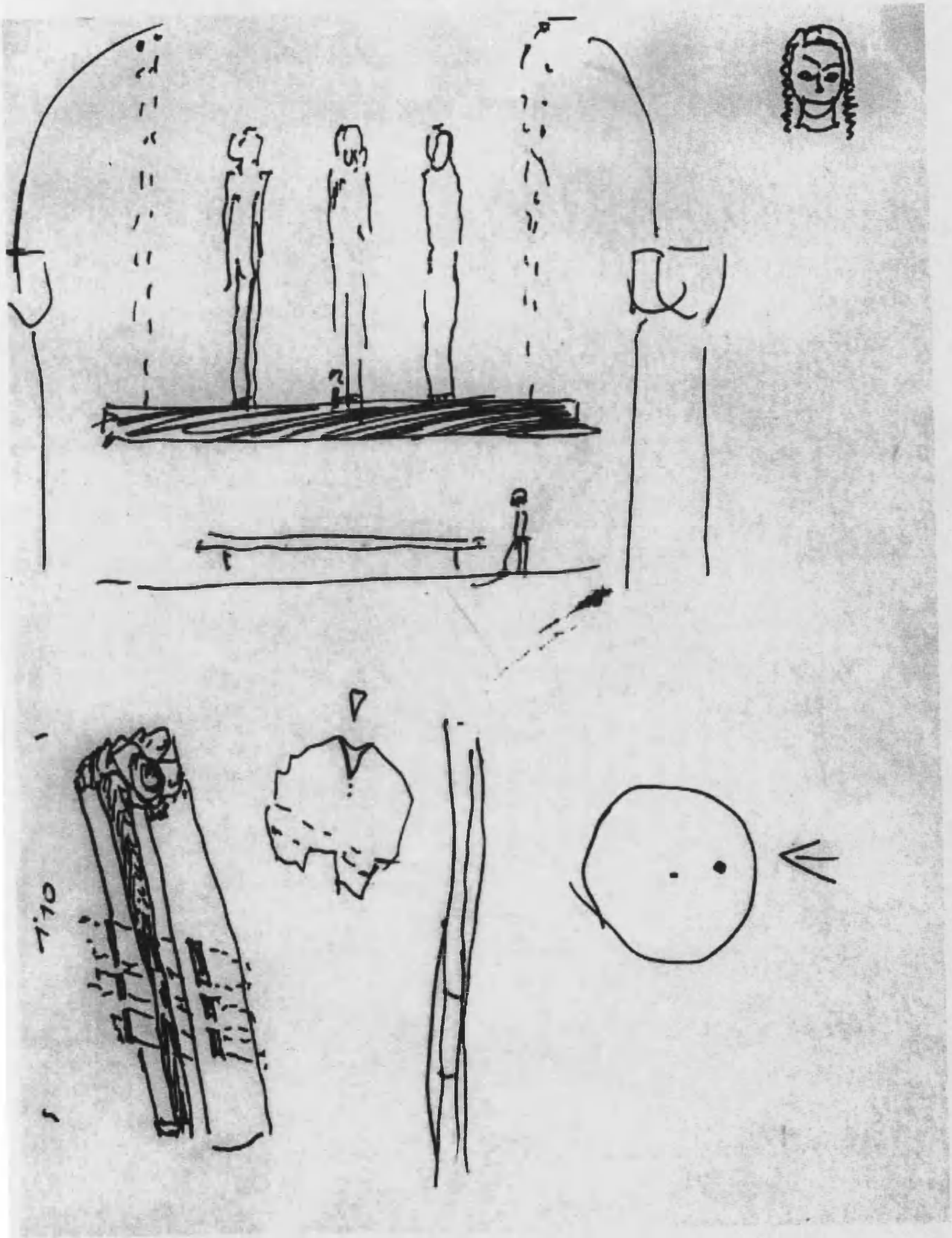


Fig. 21

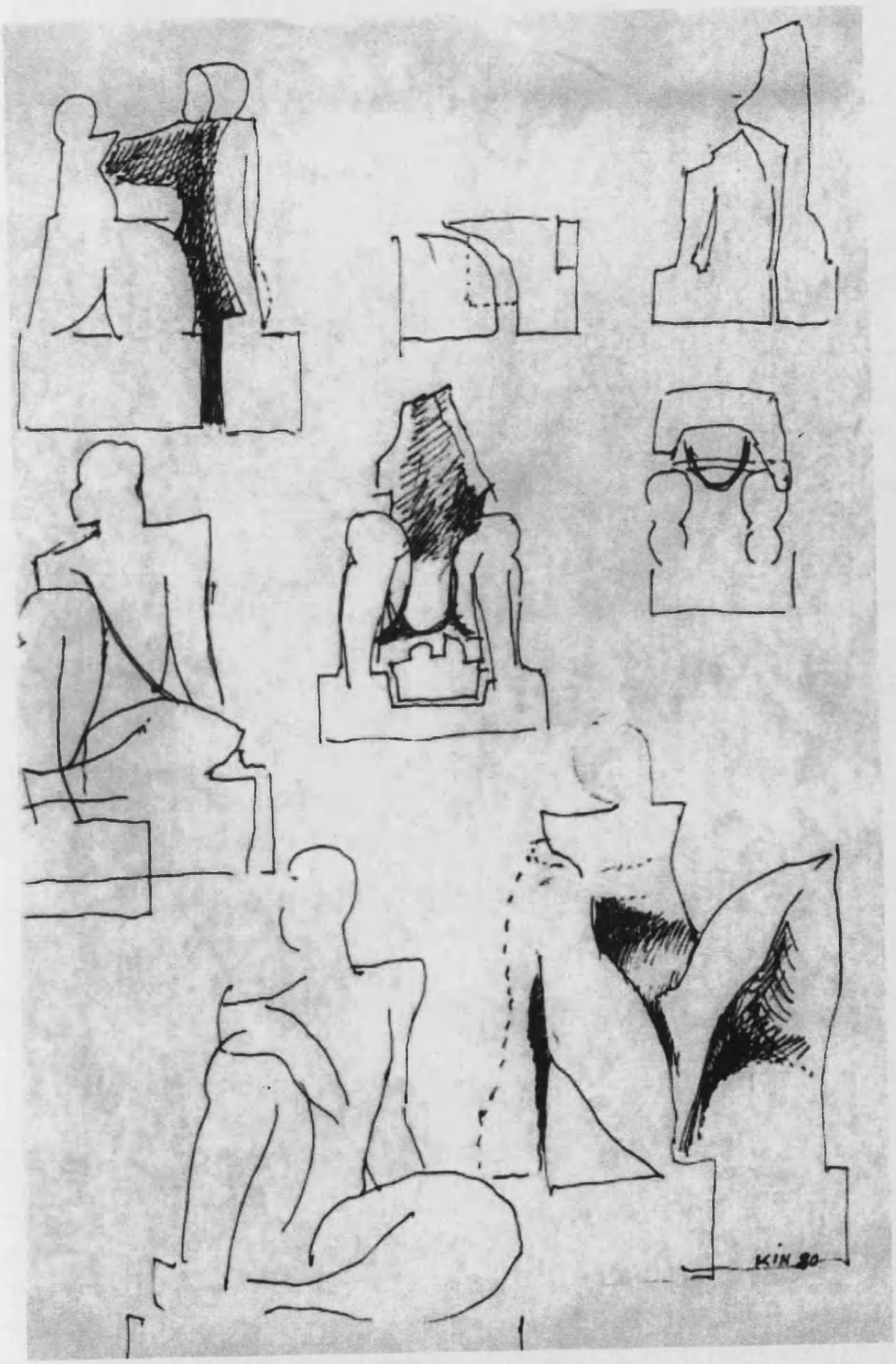


Fig. 22

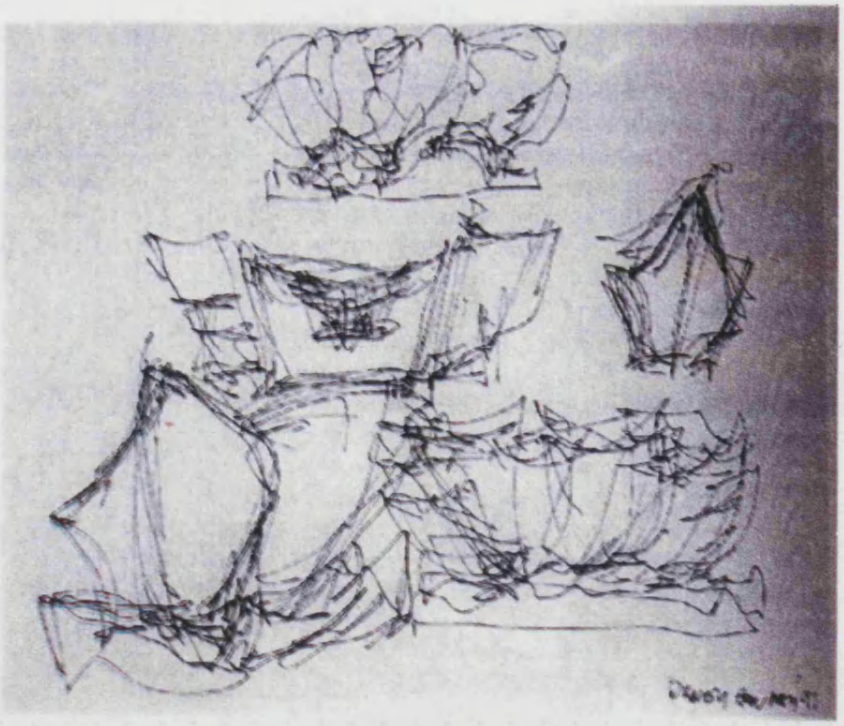


Fig. 23

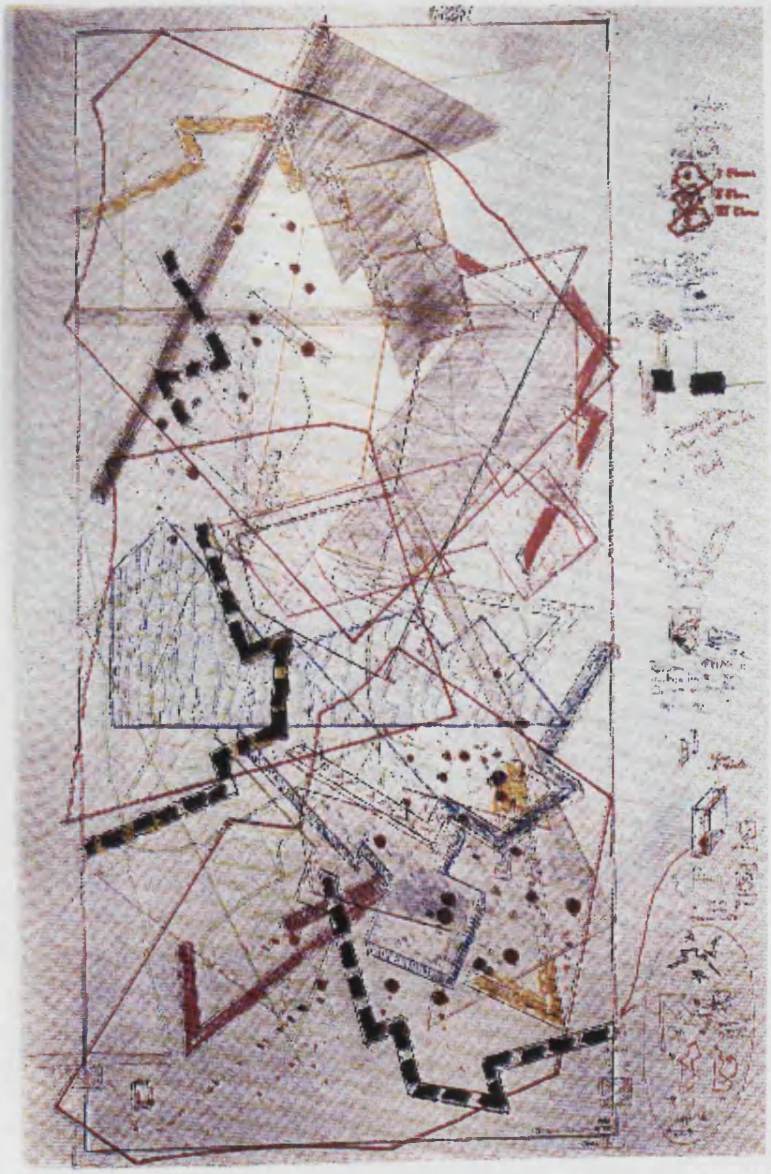


Fig. 24

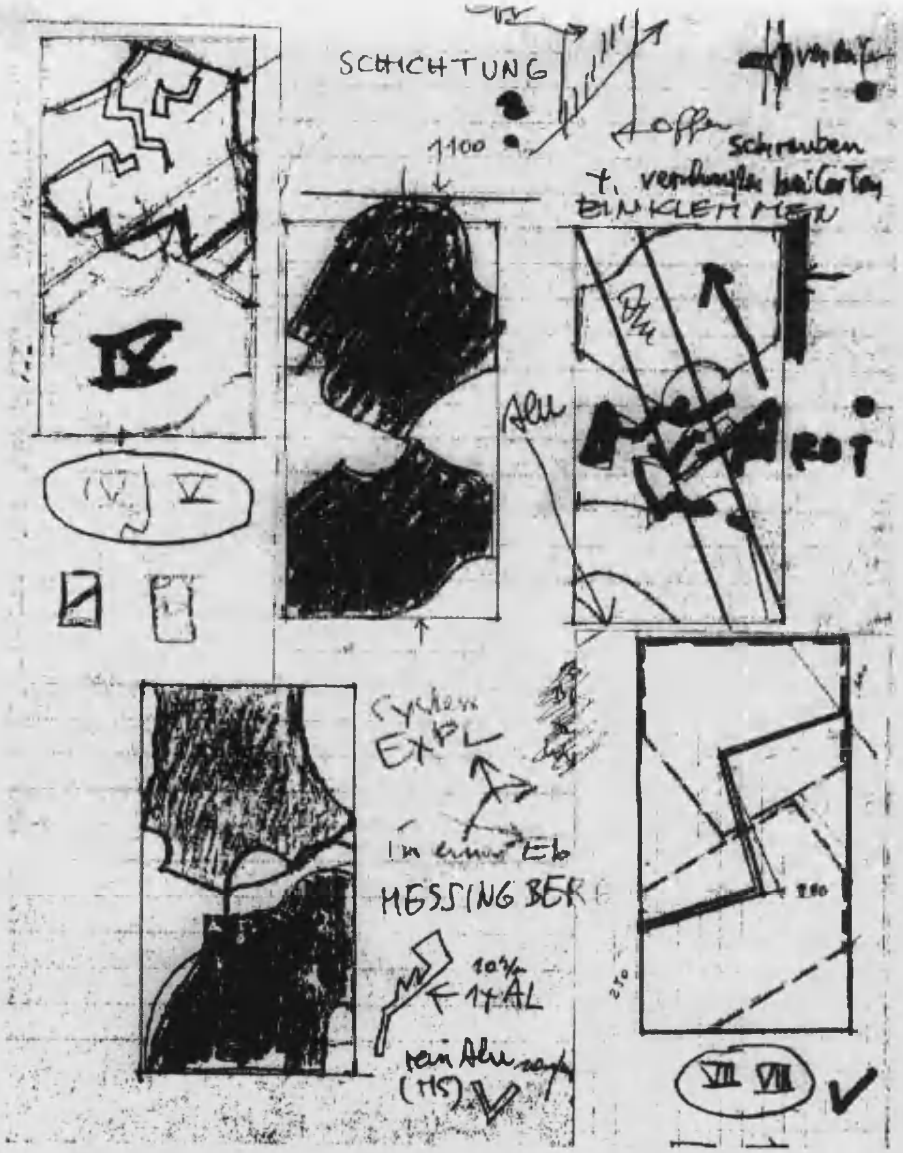

SCHICHTUNG
1100
Schrauben
EINKLEMMEN
Alu
ROT
Cyclen
EXPL
MESSING BER
10%
1% AL
(MS)
VII VII

Fig. 25

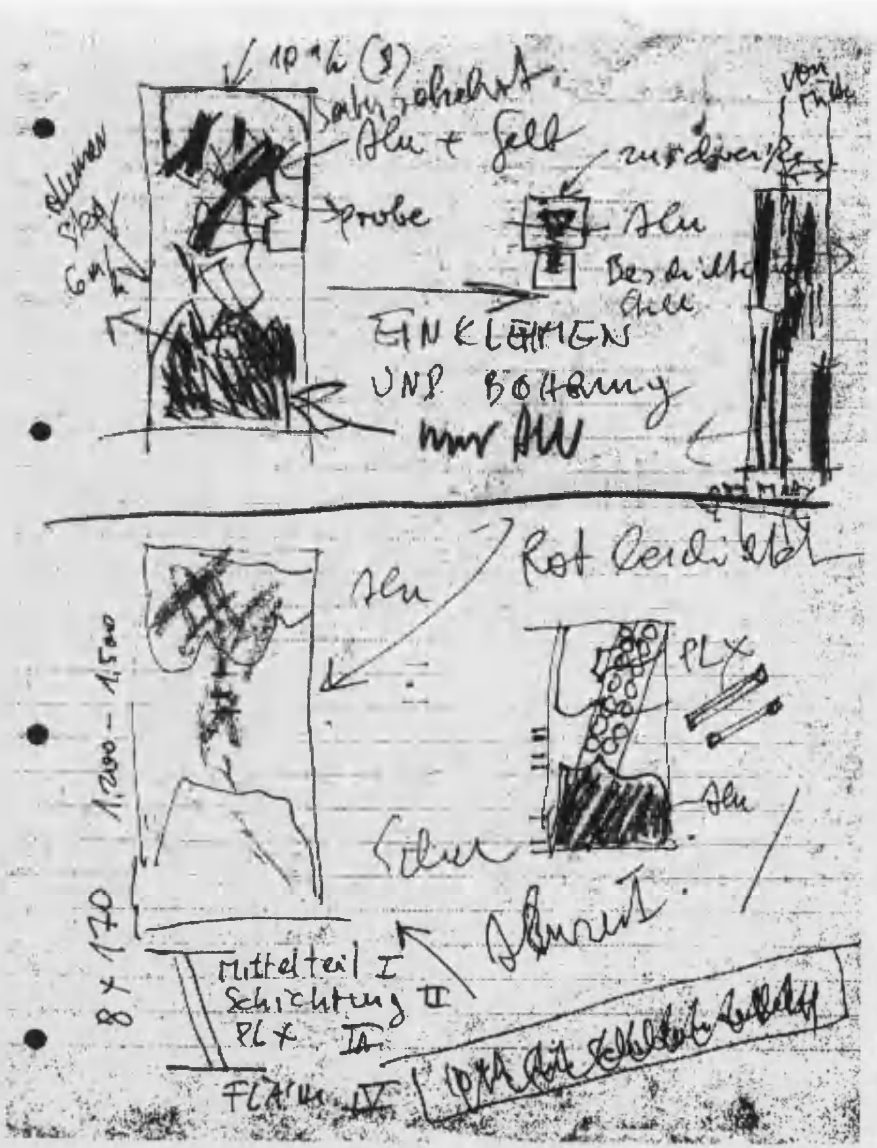

Probe
Alu
EINKLEMMEN
UND BOHRUNG
Rot
PLX
Alu
Mittelteil I
Schichtung II
PLX III
FLÄCHE IV

Fig. 26

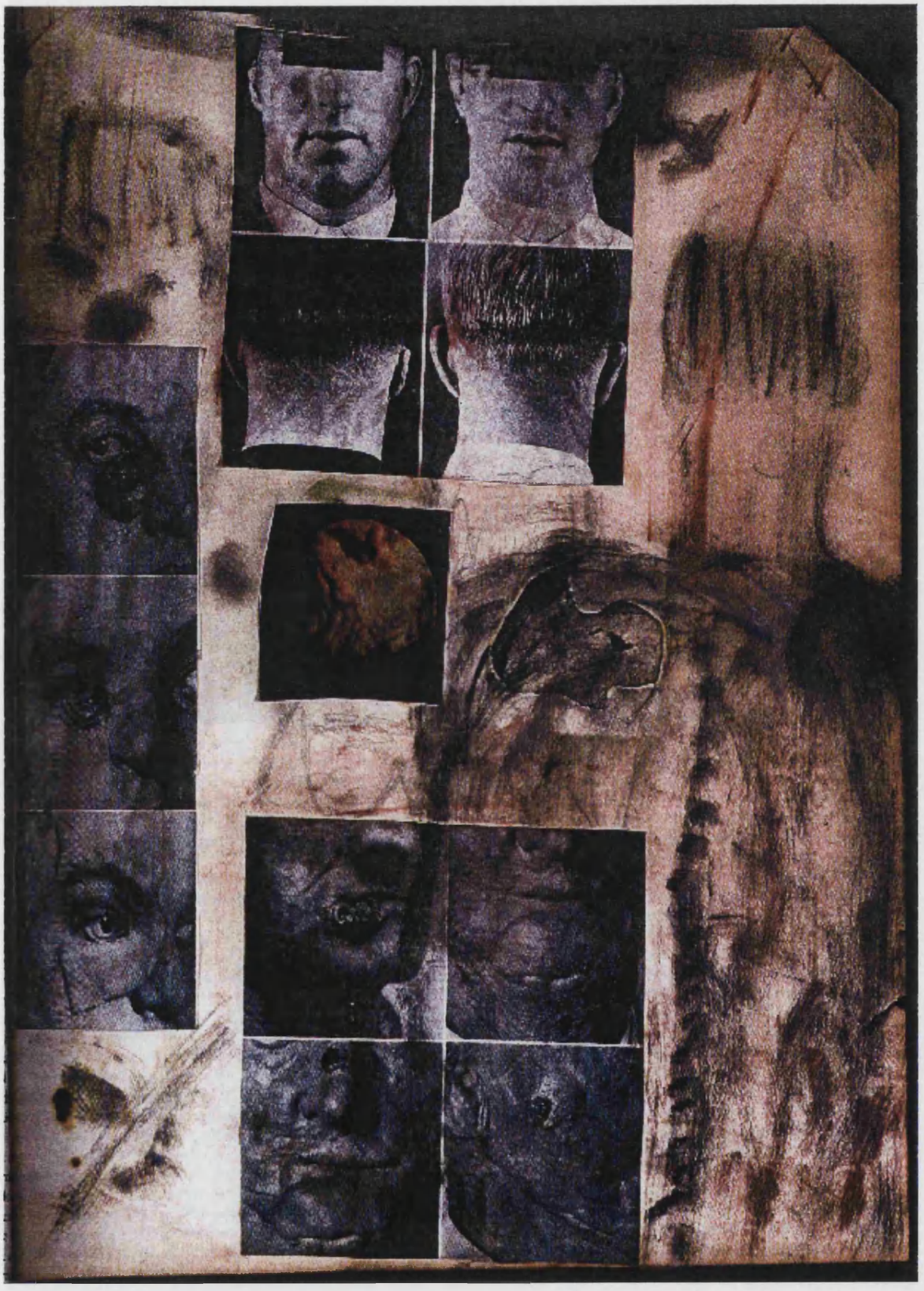


Fig. 27

Fig. 28

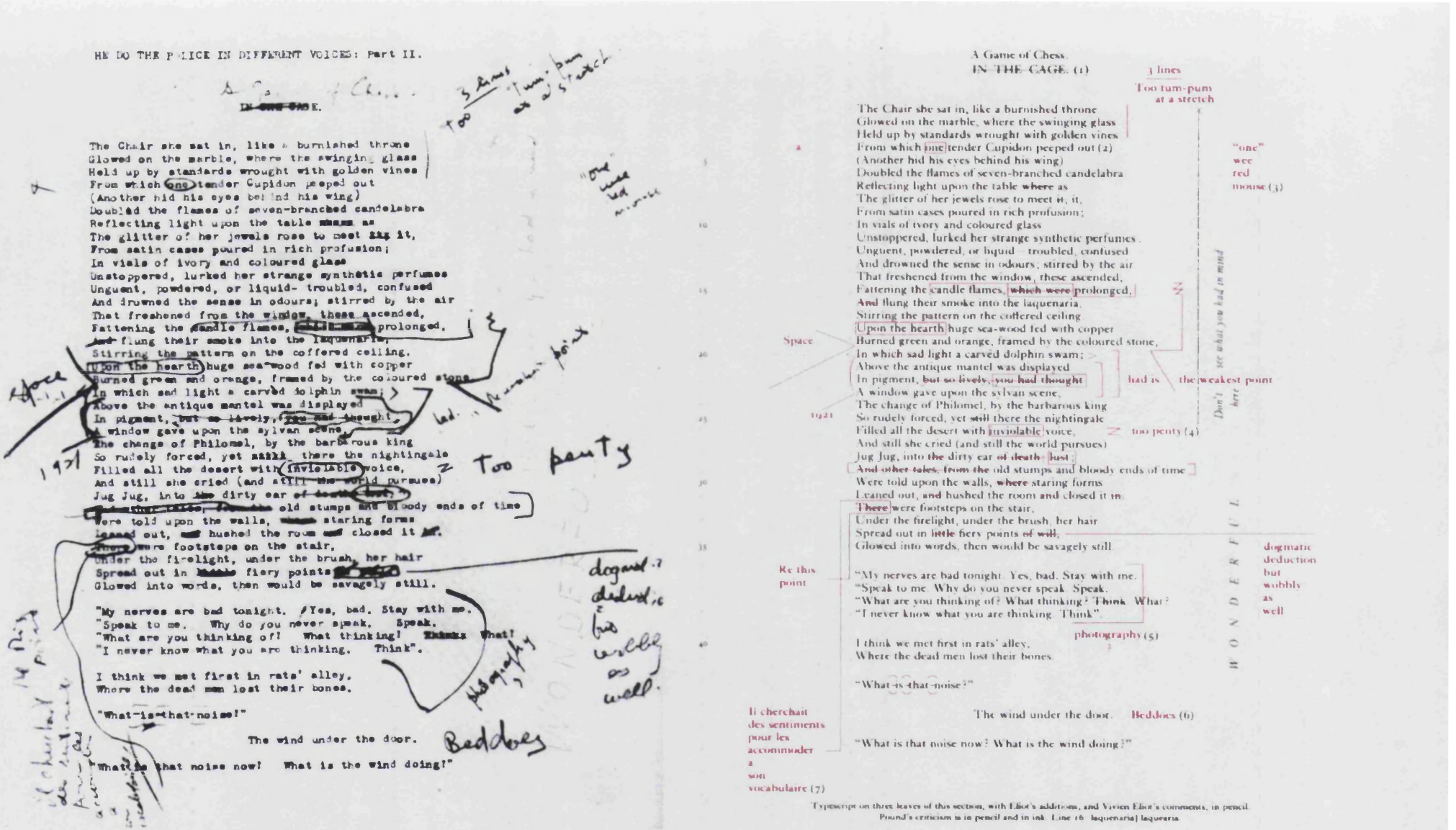
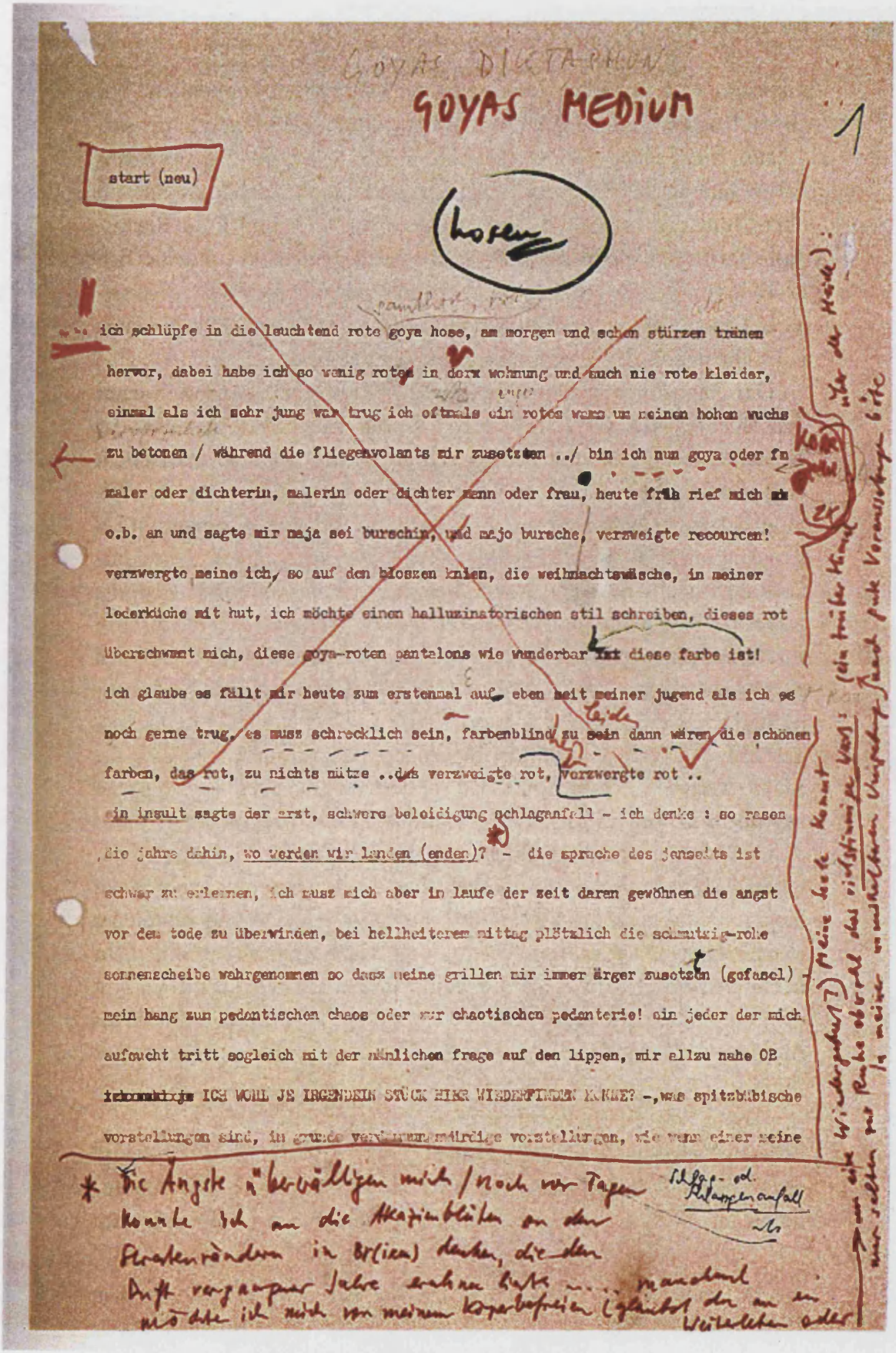

HE DO THE P LICE IN DIFFERENT VOICES: Part II.
The Chair she sat in, like a burnished throne
Glowed on the marble, where the swinging glass
Held up by standards wrought with golden vines
From which one tender Cupidon peeped out
(Another hid his eyes behind his wing)
Doubled the flames of seven-branched candelabra
Reflecting light upon the table as
The glitter of her jewels rose to meet it,
From satin cases poured in rich profusion;
In vials of ivory and coloured glass
Unstoppered, lurked her strange synthetic perfumes
Unguent, powdered, or liquid- troubled, confused
And drowned the sense in odours; stirred by the air
That freshened from the window, these ascended,
Fattening the candle flames, prolonged,
And flung their smoke into the laquearia,
Stirring the pattern on the coffered ceiling.
Upon the hearth huge sea-wood fed with copper
Burned green and orange, framed by the coloured stone,
In which sad light a carved dolphin swam;
Above the antique mantel was displayed
In pigment, but so lively, you had thought
A window gave upon the sylvan scene,
The change of Philomel, by the barbarous king
So rudely forced, yet still there the nightingale
Filled all the desert with inviolable voice,
And still she cried (and still the world pursues)
Jug Jug, into the dirty ear of death lust;
old stumps and bloody ends of time
Were told upon the walls, staring forms
Leaned out, and hushed the room and closed it in.
were footsteps on the stair,
Under the fi-elight, under the brush, her hair
Spread out in fiery points
Glowed into words, then would be savagely still.
"My nerves are bad tonight. Yes, bad. Stay with me.
"Speak to me. Why do you never speak. Speak.
"What are you thinking of? What thinking! What!
"I never know what you are thinking. Think".
I think we met first in rats' alley,
Where the dead men lost their bones.
"What is that noise?"
The wind under the door.
"What is that noise now? What is the wind doing?"
A Game of Chess.
IN THE CAGE. (1)
4 lines
Too tum-pum at a stretch
The Chair she sat in, like a burnished throne
Glowed on the marble, where the swinging glass
Held up by standards wrought with golden vines
From which one tender Cupidon peeped out (2)
(Another hid his eyes behind his wing)
Doubled the flames of seven-branched candelabra
Reflecting light upon the table where as
The glitter of her jewels rose to meet it,
From satin cases poured in rich profusion;
In vials of ivory and coloured glass
Unstoppered, lurked her strange synthetic perfumes;
Unguent, powdered, or liquid – troubled, confused
And drowned the sense in odours; stirred by the air
That freshened from the window, these ascended,
Fattening the candle flames, which were prolonged,
And flung their smoke into the laquearia,
Stirring the pattern on the coffered ceiling.
Upon the hearth huge sea-wood fed with copper
Burned green and orange, framed by the coloured stone,
In which sad light a carved dolphin swam;
Above the antique mantel was displayed
In pigment, but so lively, you had thought
A window gave upon the sylvan scene,
The change of Philomel, by the barbarous king
So rudely forced, yet still there the nightingale
Filled all the desert with inviolable voice,
And still she cried (and still the world pursues)
Jug Jug, into the dirty ear of death lust;
And other tales from the old stumps and bloody ends of time
Were told upon the walls, where staring forms
Leaned out, and hushed the room and closed it in.
There were footsteps on the stair,
Under the firelight, under the brush, her hair
Spread out in little fiery points of will,
Glowed into words, then would be savagely still.
"My nerves are bad tonight. Yes, bad. Stay with me.
"Speak to me. Why do you never speak. Speak.
"What are you thinking of? What thinking? Think. What?
"I never know what you are thinking. Think".
photography (5)
I think we met first in rats' alley,
Where the dead men lost their bones.
"What is that noise?"
The wind under the door. Beddoes (6)
"What is that noise now? What is the wind doing?"
Il cherchait des sentiments pour les accommoder à son vocabulaire (7)
Space
1921
Re this point
had is the weakest point
too penty (4)
"one" wee red mouse (3)
dogmatic deduction but wobbly as well
WONDERFUL
Typescript on three leaves of this section, with Eliot's additions, and Vivien Eliot's comments, in pencil.
Pound's criticism is in pencil and in ink. Line 16 laquearia] laqueria.

Fig. 29


GOYAS DICTAPHON

GOYAS MEDIUM

1

start (neu)

hosen

ich schlüpfe in die leuchtend rote goya hose, am morgen und schon stürzen tränen hervor, dabei habe ich so wenig rotes in dorx wohnung und auch nie rote kleider, einmal als ich sehr jung war trug ich oftmals ein rotes wams um meinen hohen wuchs zu betonen / während die fliegenvolants mir zusetzten ../ bin ich nun goya oder fn maler oder dichterin, malerin oder dichter mann oder frau, heute früh rief mich m o.b. an und sagte mir maja sei burschin, und majo bursche, verzweigte recourcen! verzwergte meine ich, so auf den bloszen knien, die weihnachtswäsche, in meiner lederdiche mit hut, ich möchte einen halluzinatorischen stil schreiben, dieses rot überschwemt mich, diese goya-roten pantalons wie wunderbar ist diese farbe ist! ich glaube es fällt mir heute zum erstenmal auf, eben seit meiner jugend als ich es noch gerne trug, es muss schrecklich sein, farbenblind zu sein dann wären die schönen farben, das rot, zu nichts nütze ..das verzweigte rot, verzwergte rot .. ein insult sagte der arzt, schwere beleidigung schlaganfall - ich denke : so rasen die jahre dahin, wo werden wir landen (enden)? - die sprache des jenseits ist schwer zu erlernen, ich muss mich aber in laufe der zeit daran gewöhnen die angst vor dem tode zu überwinden, bei hellheiterem mittag plötzlich die schmutzig-rote sonnenscheibe wahrgenommen so dass meine grillen mir immer ärger zusetzen (gefasel) - mein hang zum pedantischen chaos oder zur chaotischen pedanterie! ein jeder der mich aufsucht tritt sogleich mit der nämlichen frage auf den lippen, mir allzu nahe OB ~~ich wohl je~~ ICH WOHL JE IRGENDEIN STÜCK HIER WIEDERFINDEN KÖNNE? -, was spitzbübische vorstellungen sind, in grunde verächtliche vorstellungen, wie wenn einer meine

* die Ängste überwältigen mich / noch vor Tagen konnte ich an die Akazienblüten an den Straßenrändern in Br(ien) denken, die den Duft vergangener Jahre erahnen ließ ... manchmal möchte ich mich von meinem Körper befreien (gleichsam) der an ein Weibliches oder

Schlaganfall

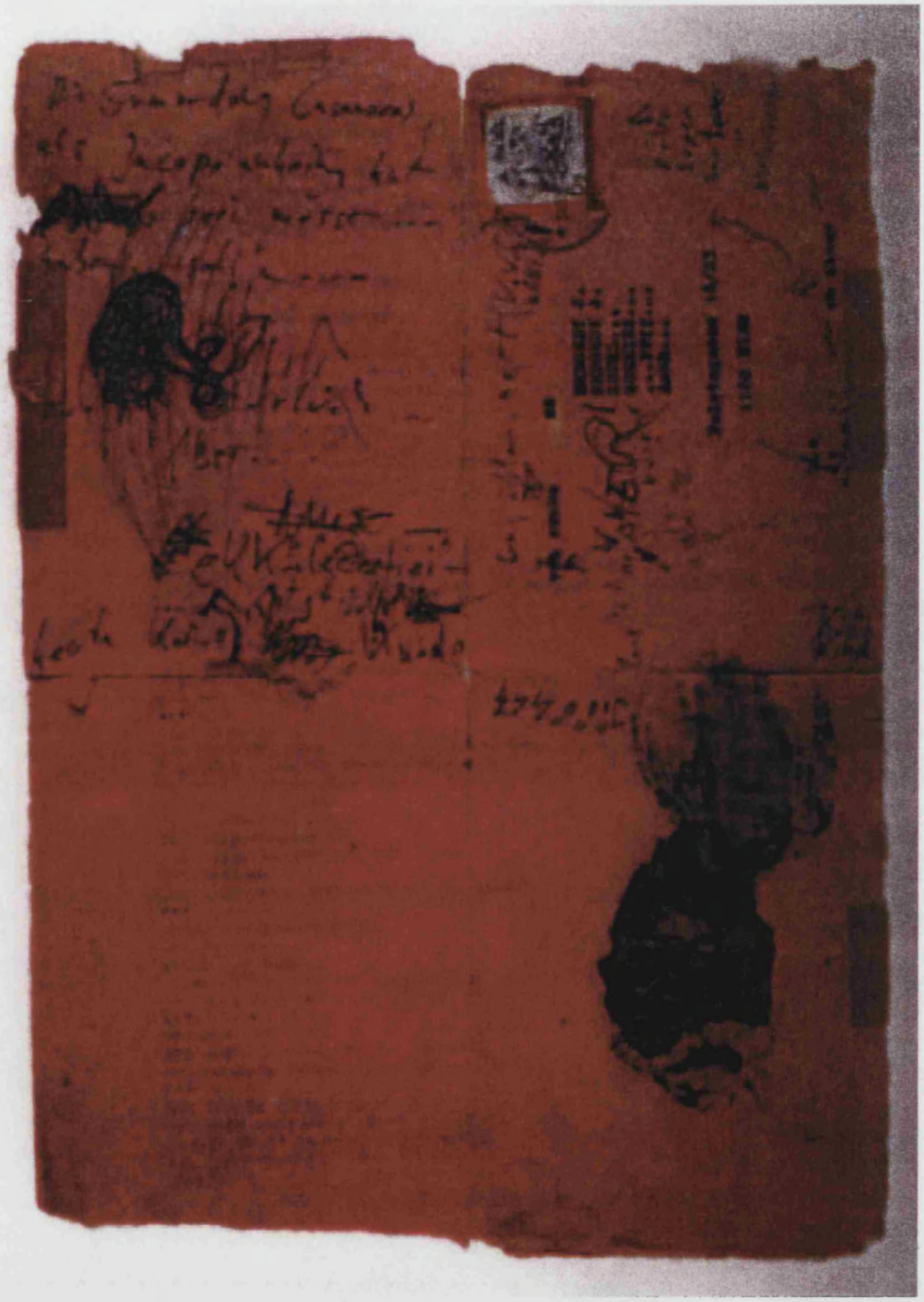


Fig. 31

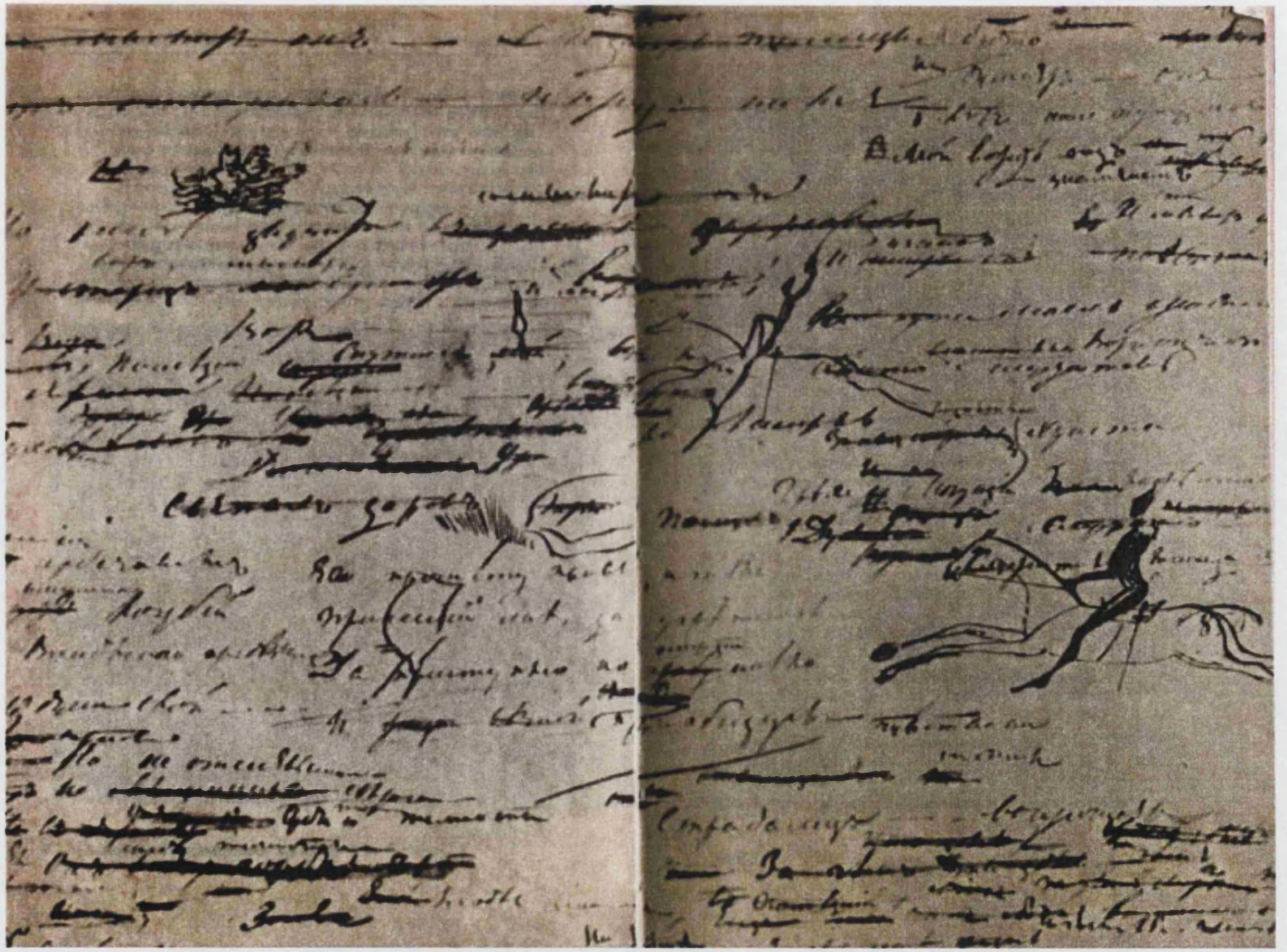


Fig. 33

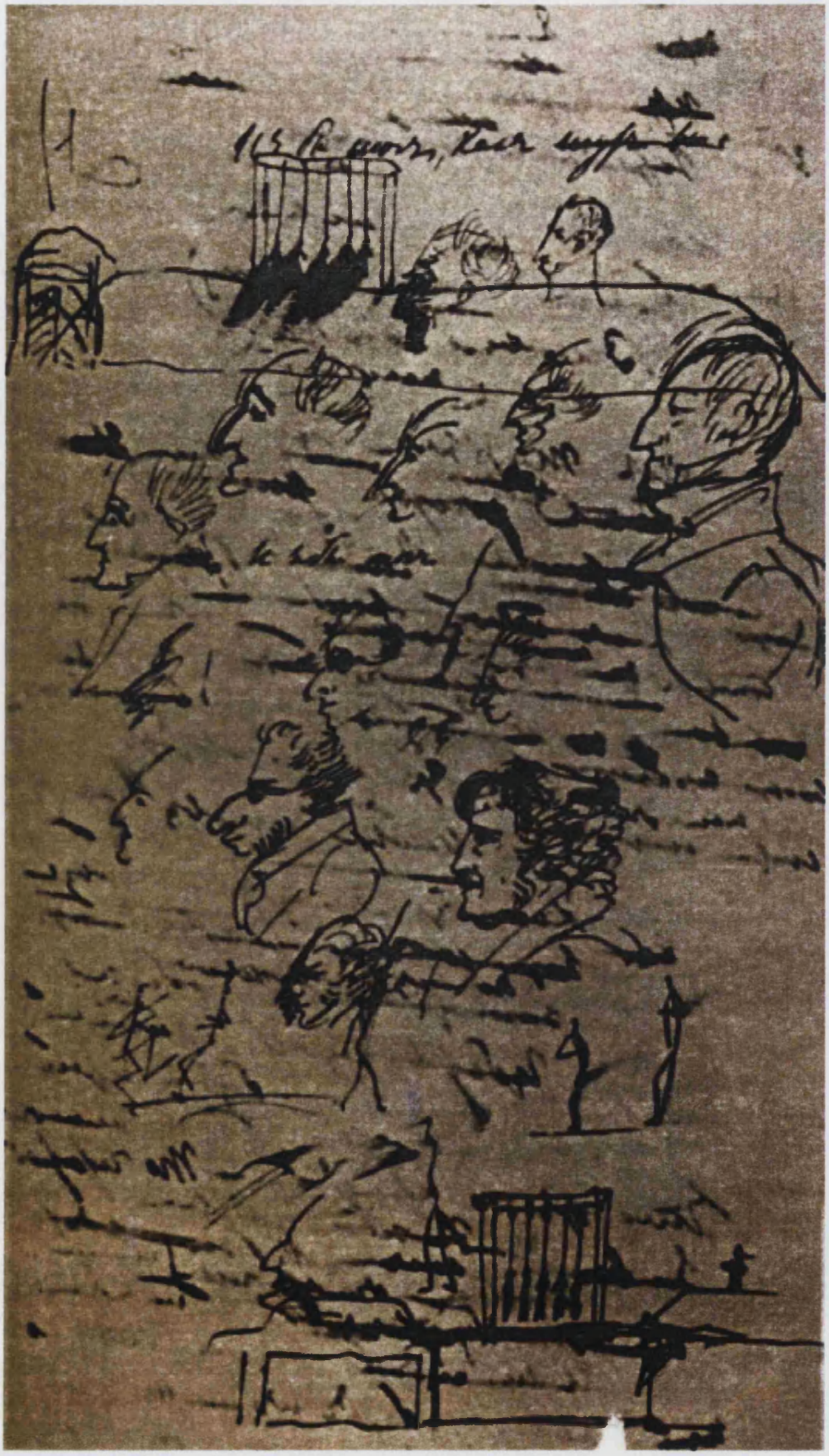


Fig. 34

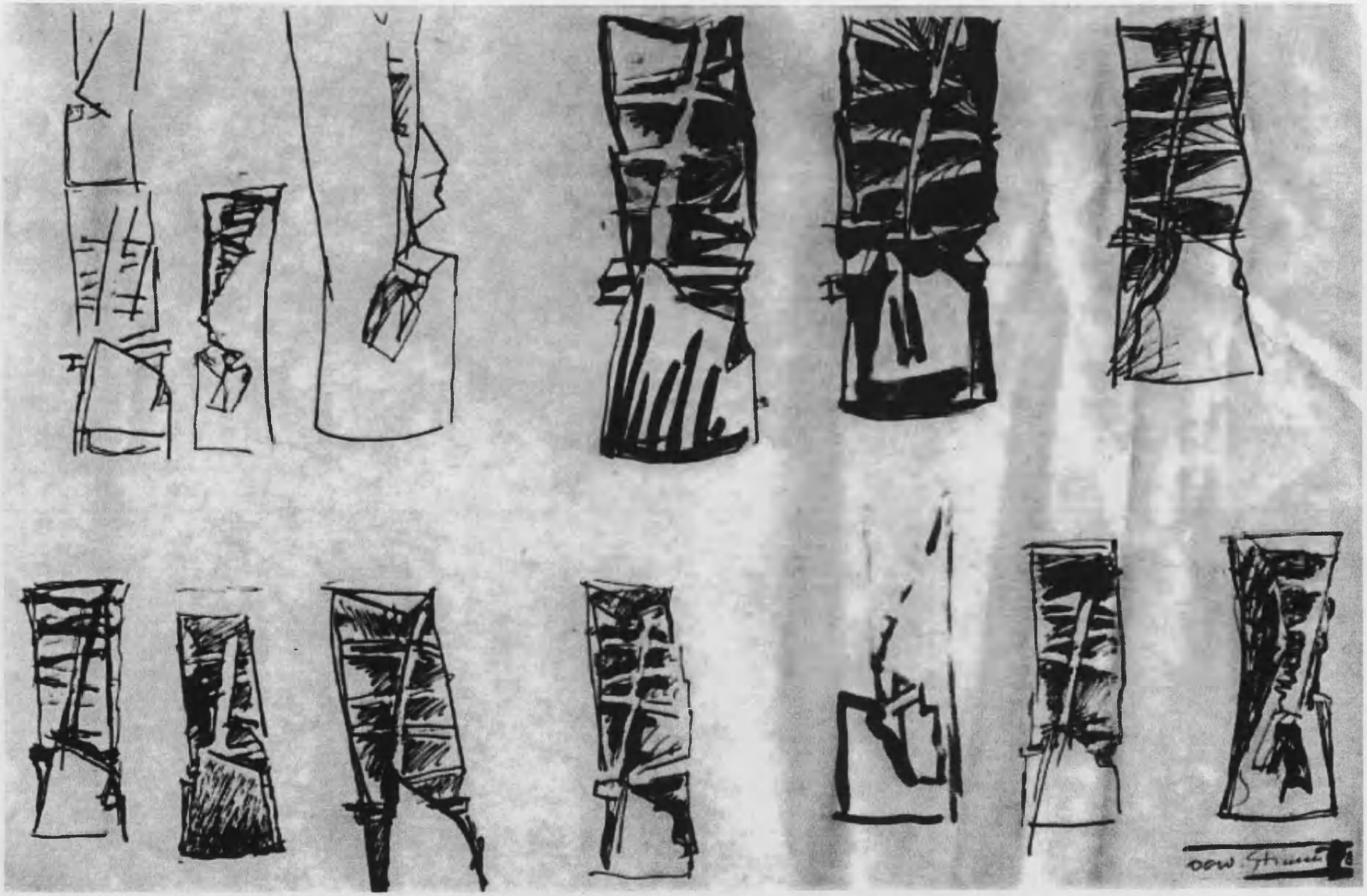


Fig. 35

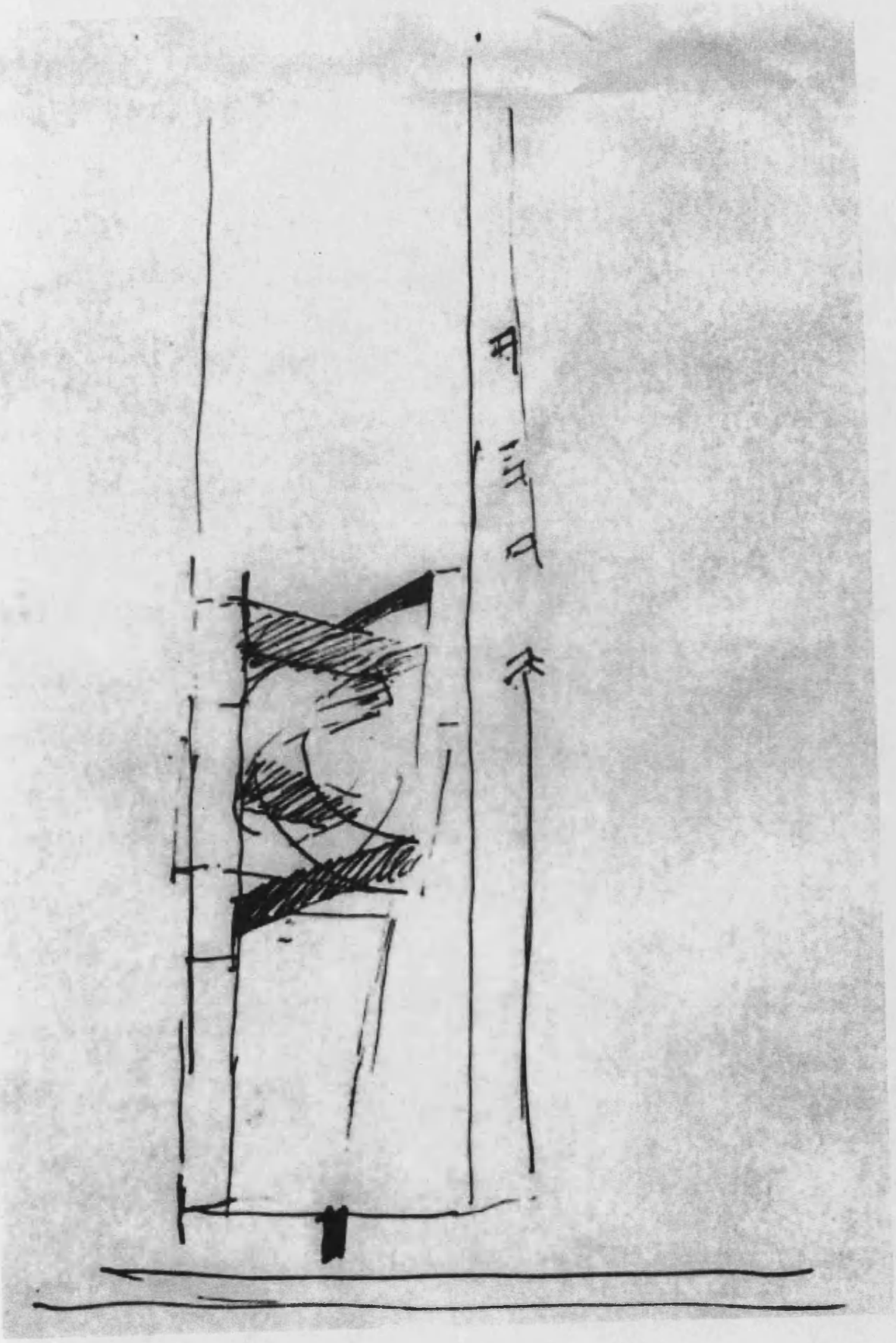


Fig. 36

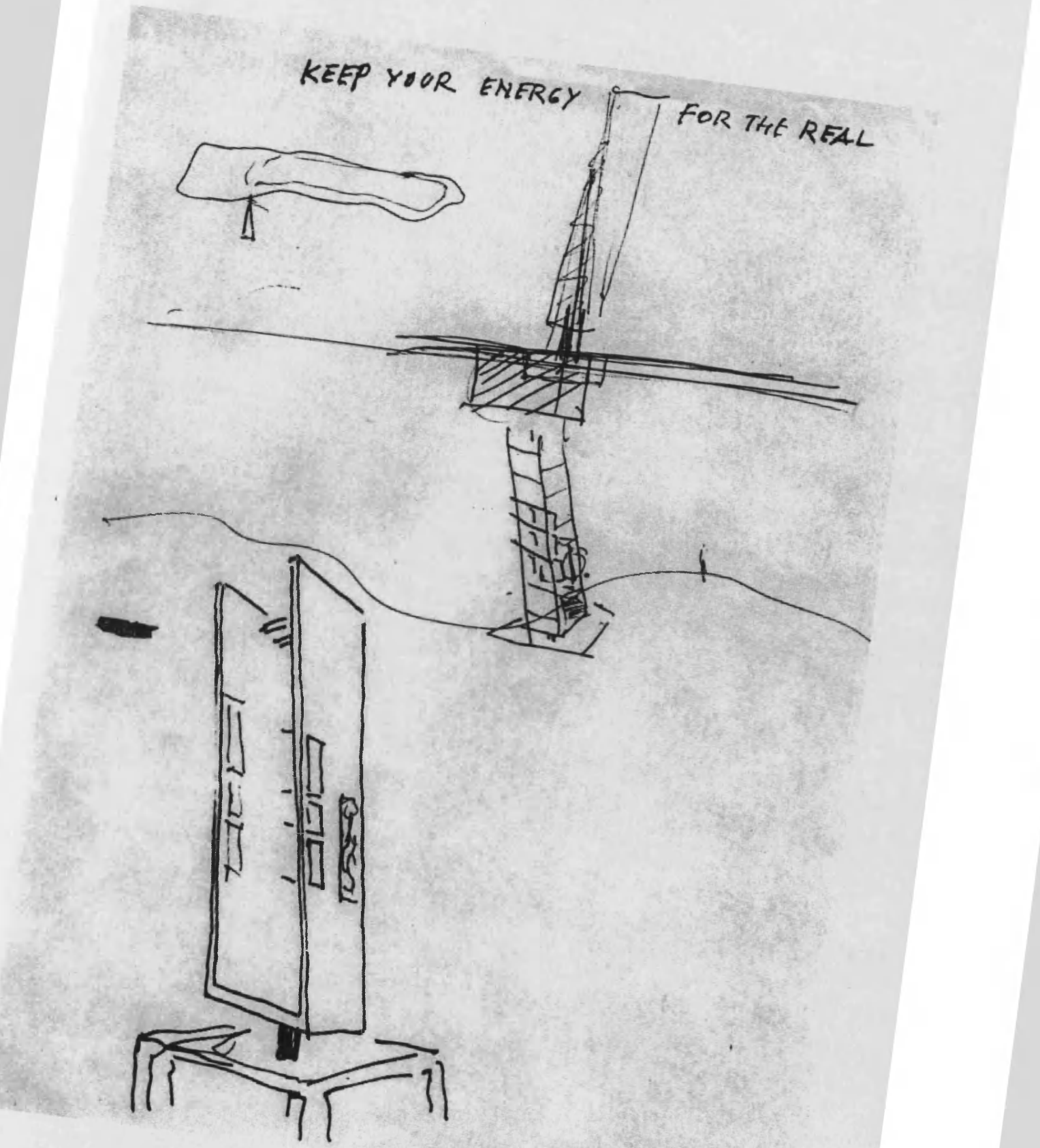


Fig. 37

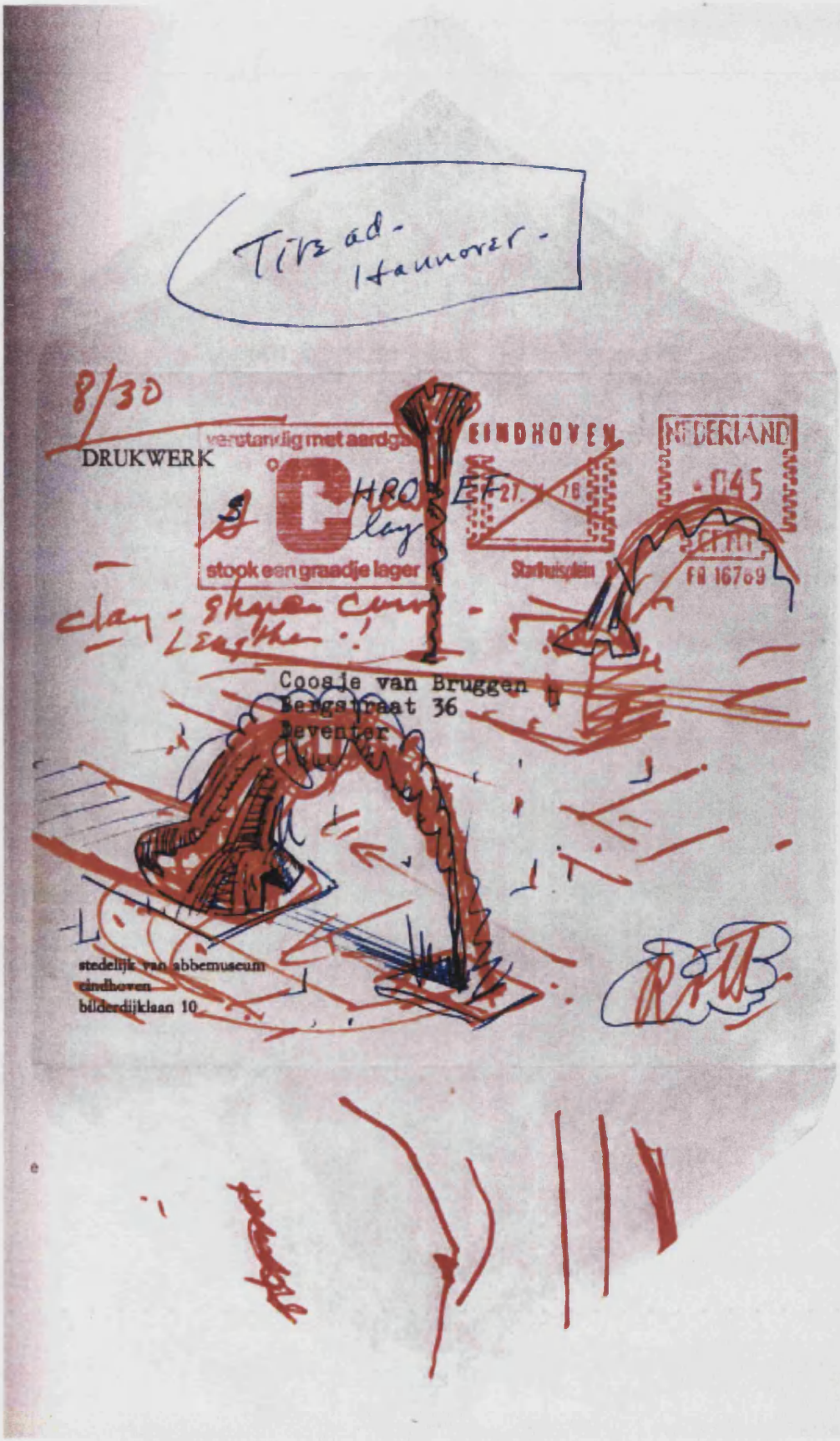

Tilzad-
Hannover-
8/30
DRUKWERK
stook een graadje lager
EINDHOVEN
NEDERLAND
Coosje van Bruggen
Bergstraat 36
Deventer
stedelijk van abbemuseum
eindhoven
bilderdijklaan 10

Fig. 38

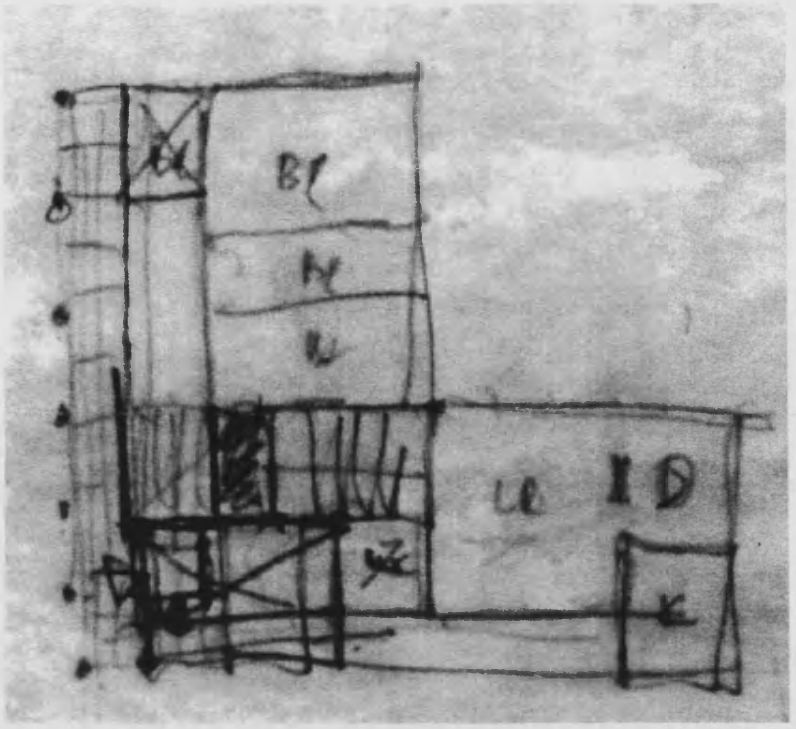


Fig. 39

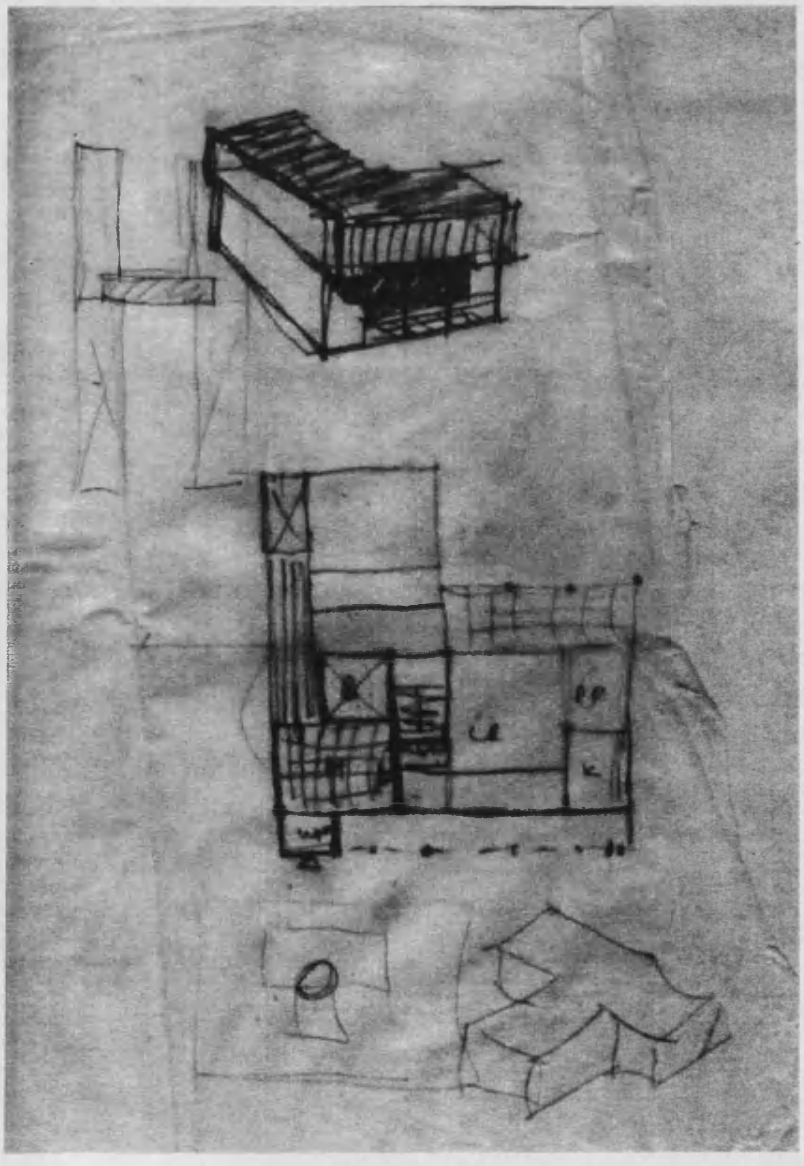


Fig. 40

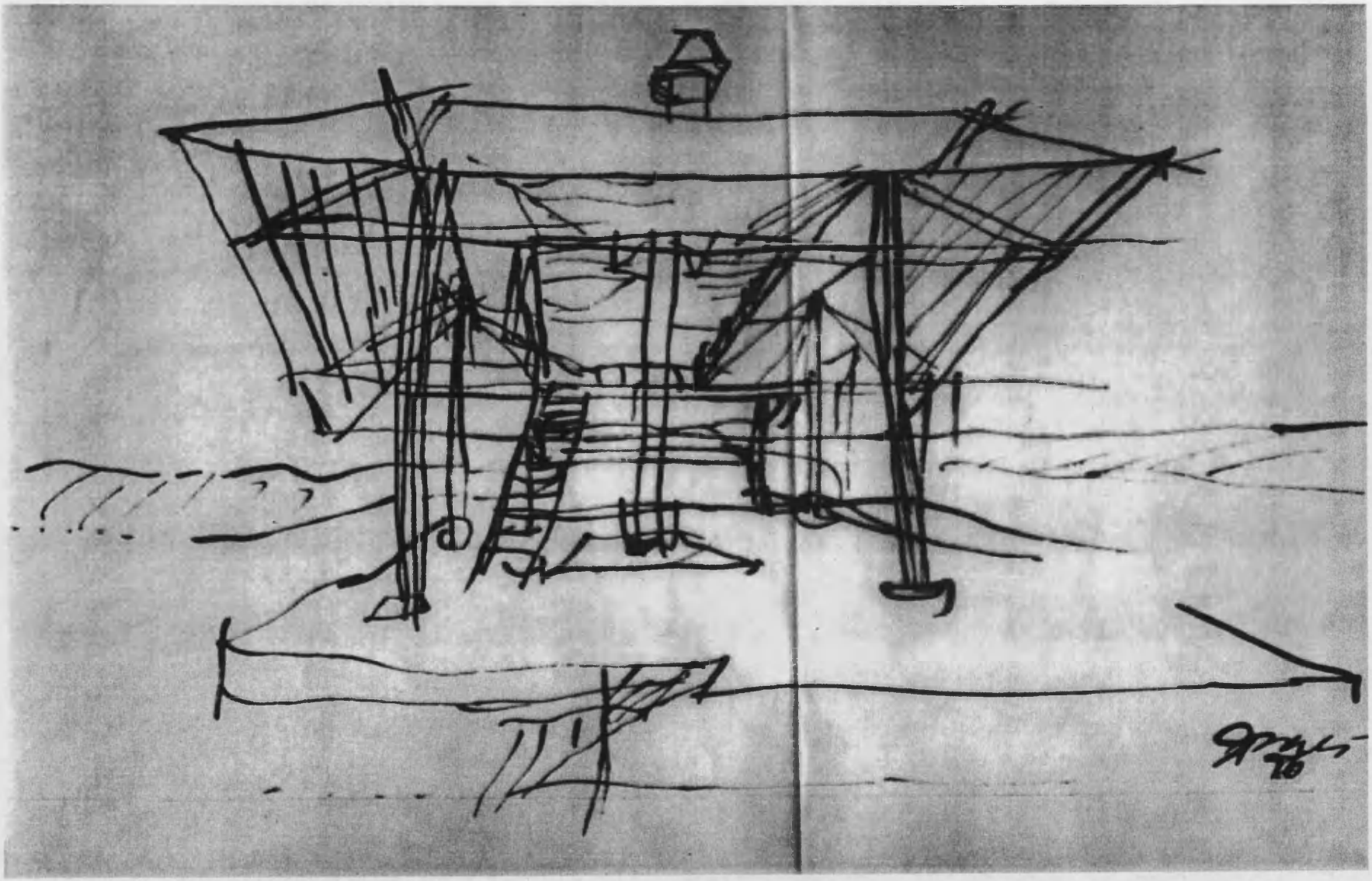


Fig. 41

Fig. 42

538

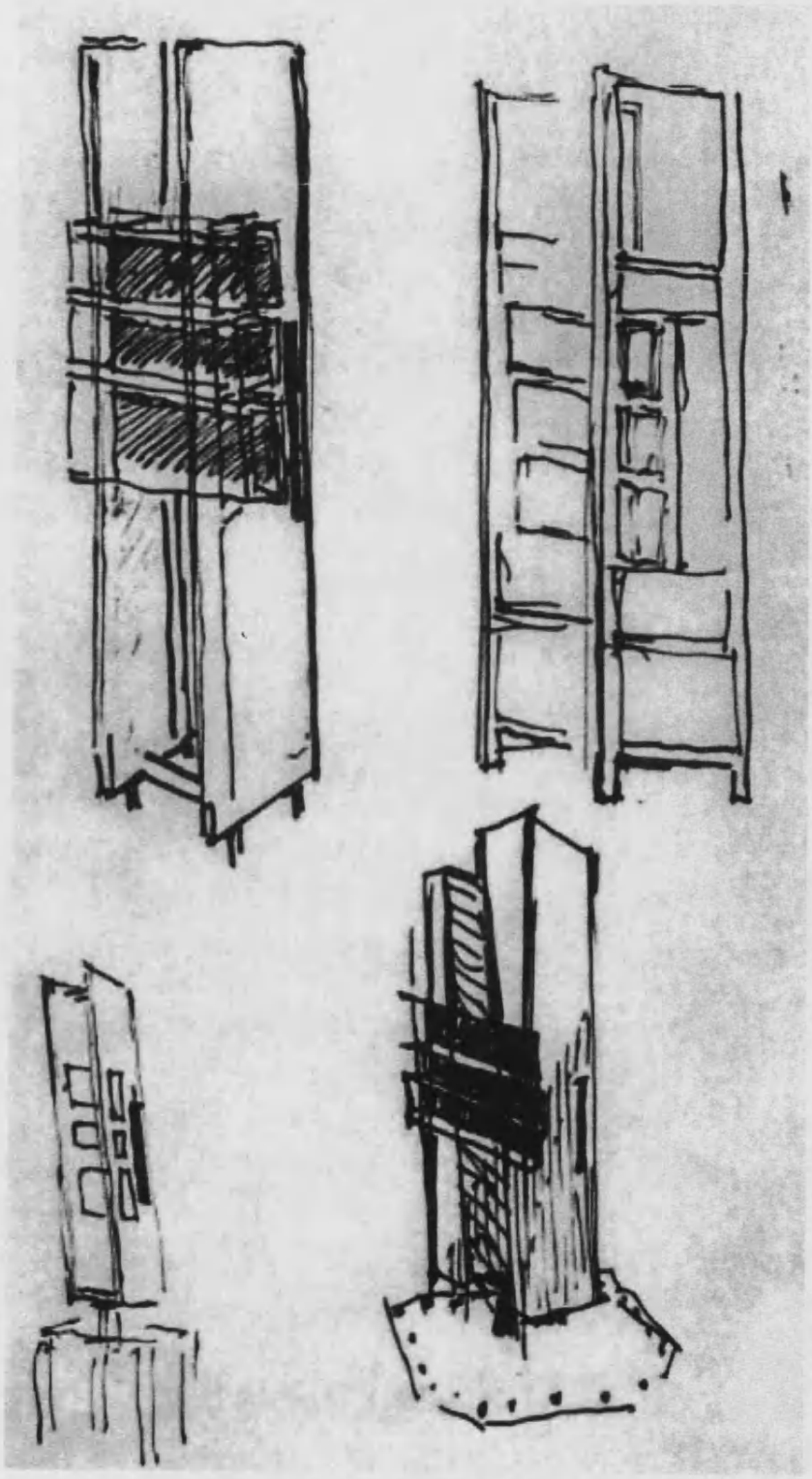


Fig. 43

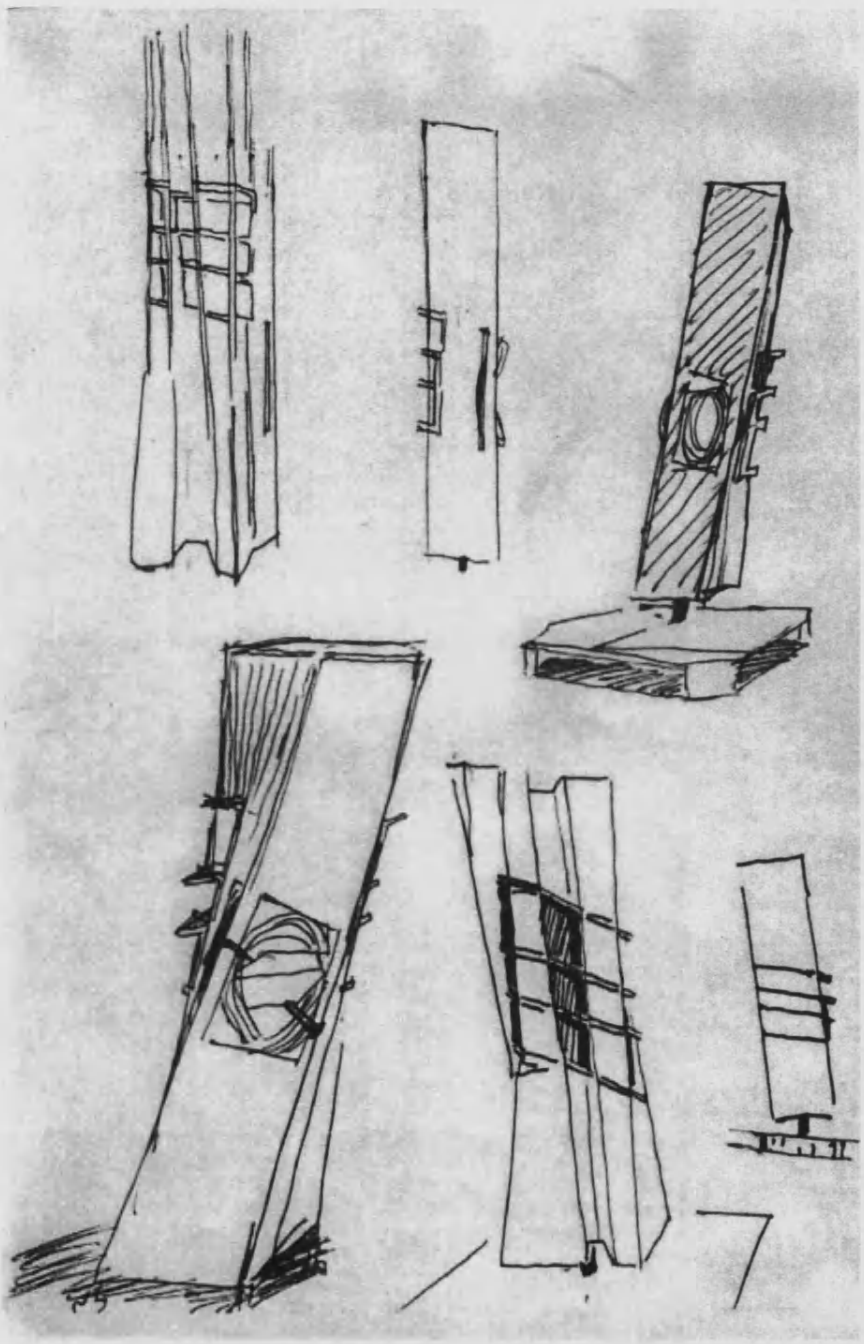


Fig. 44

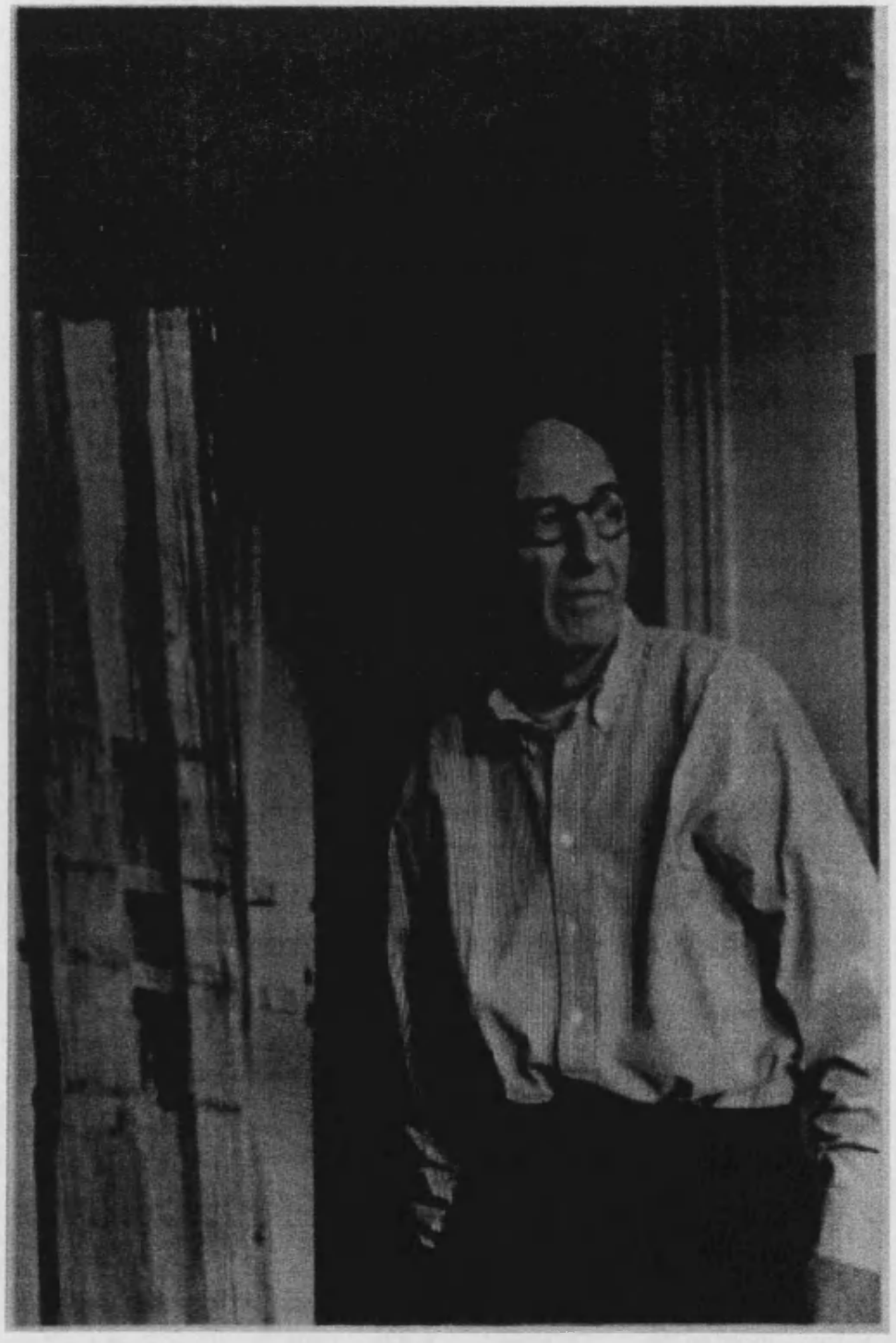


Fig. 45

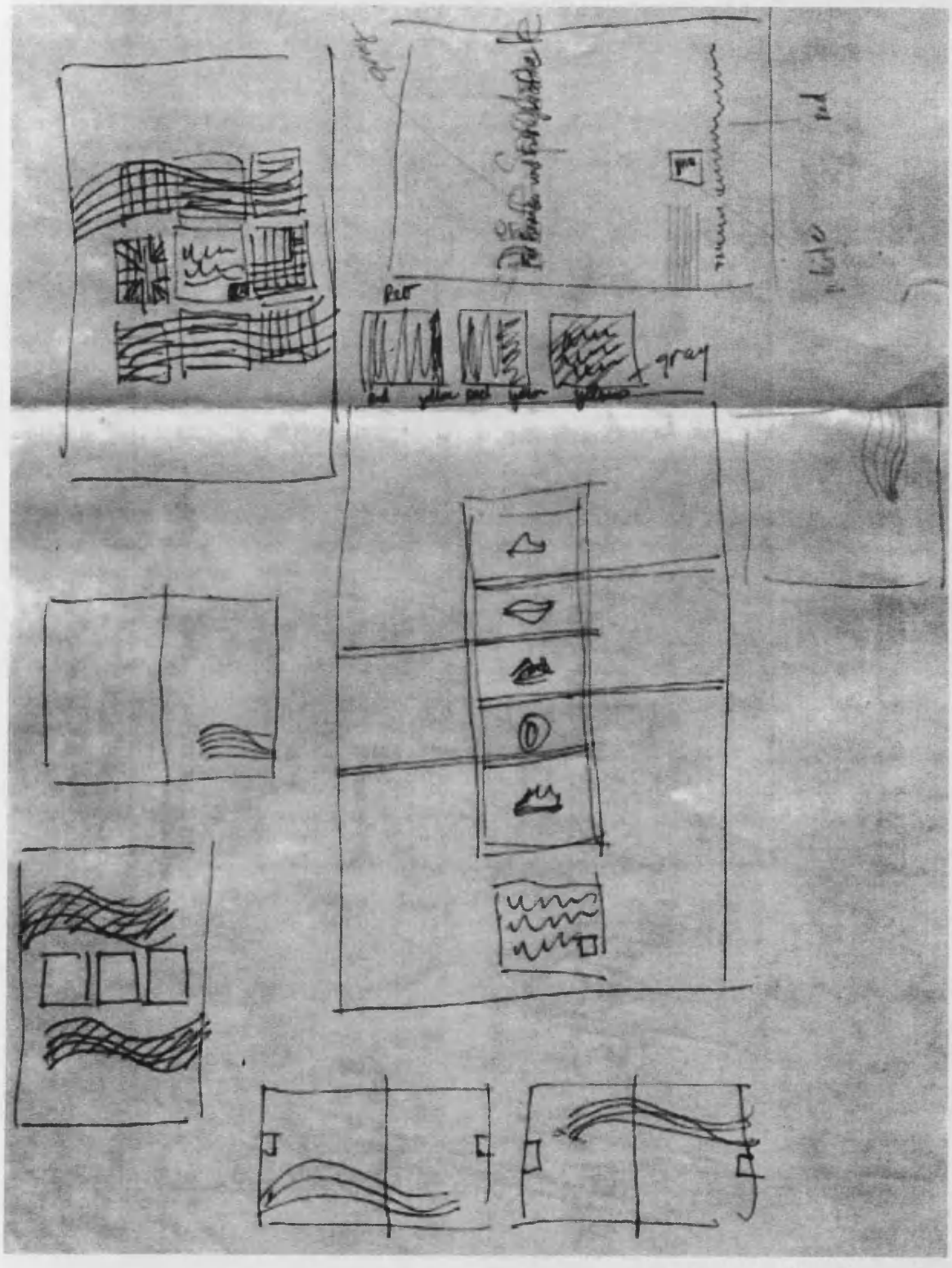


Fig. 46

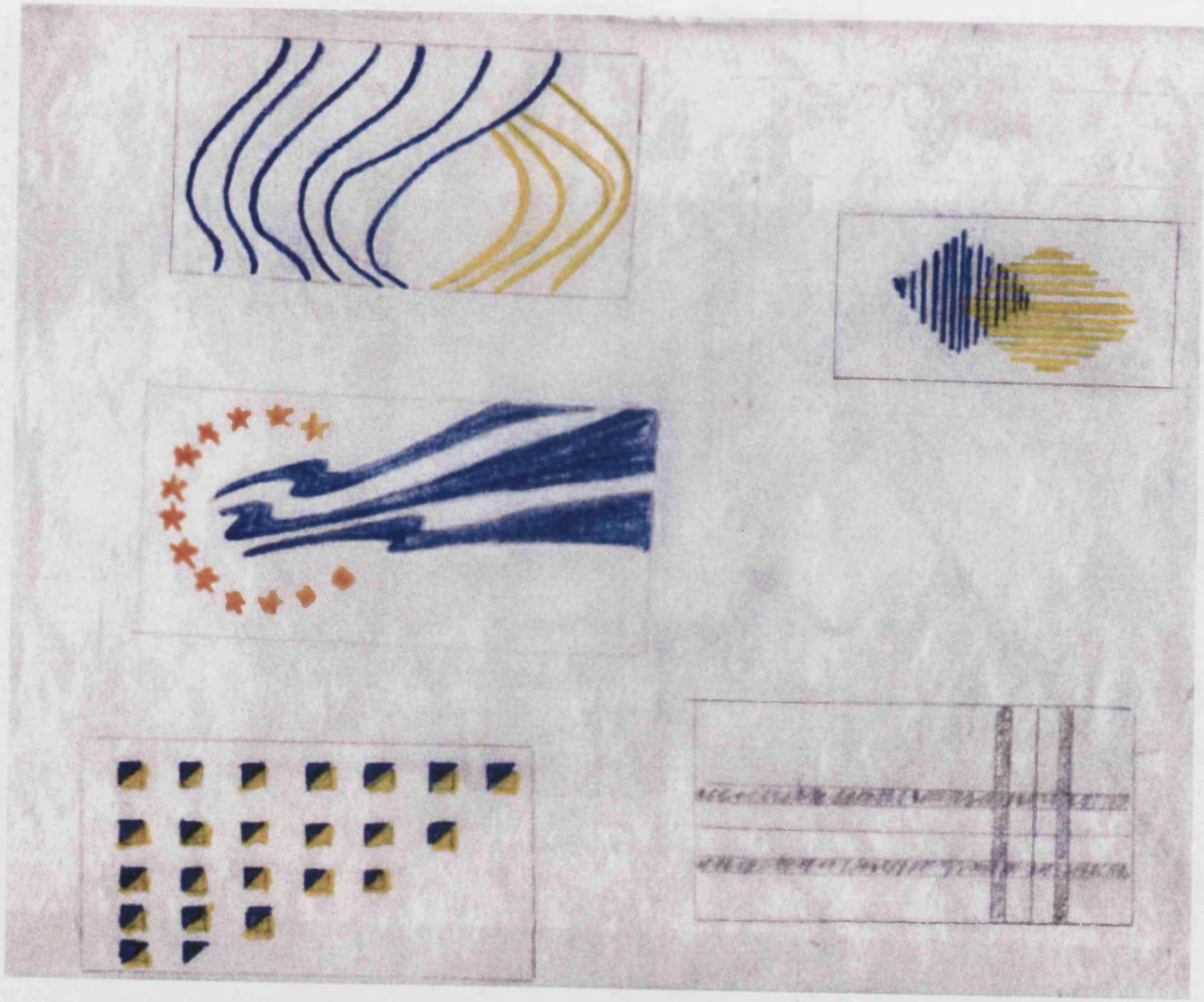


Fig. 47

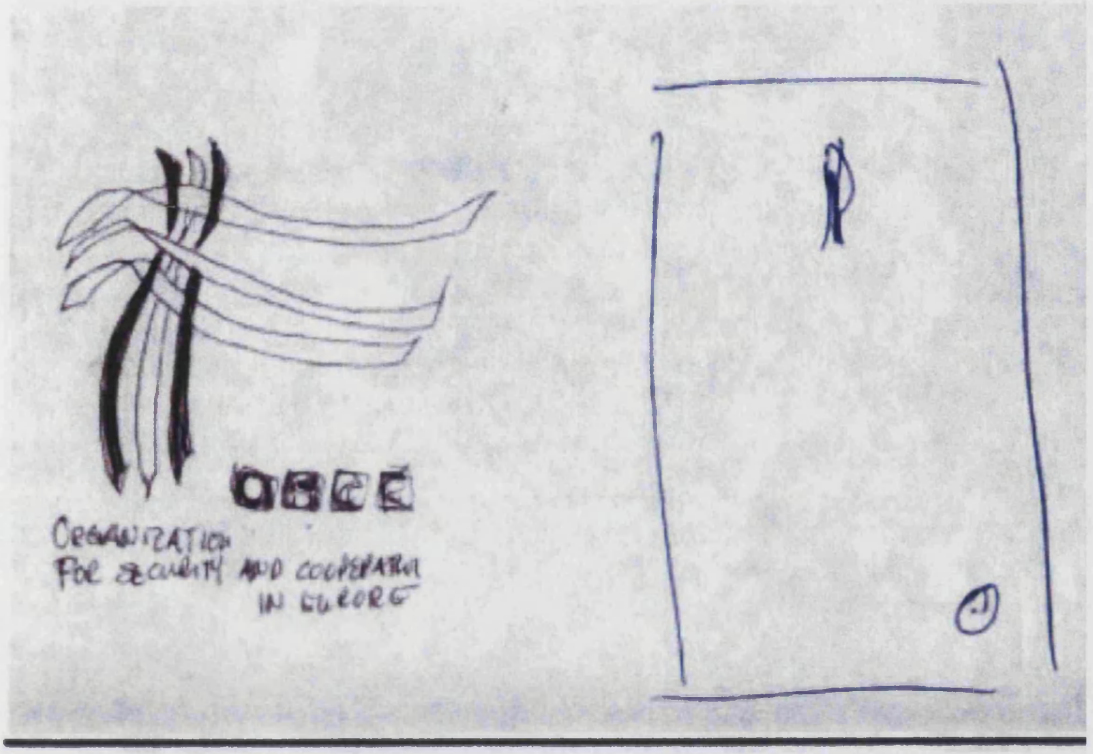


Fig. 49

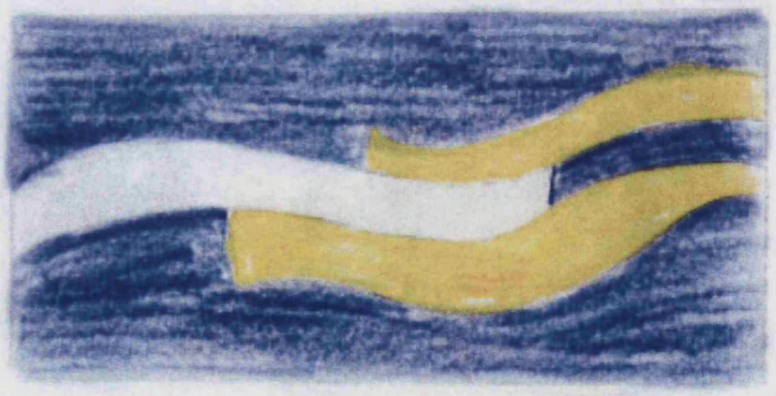


Fig. 48

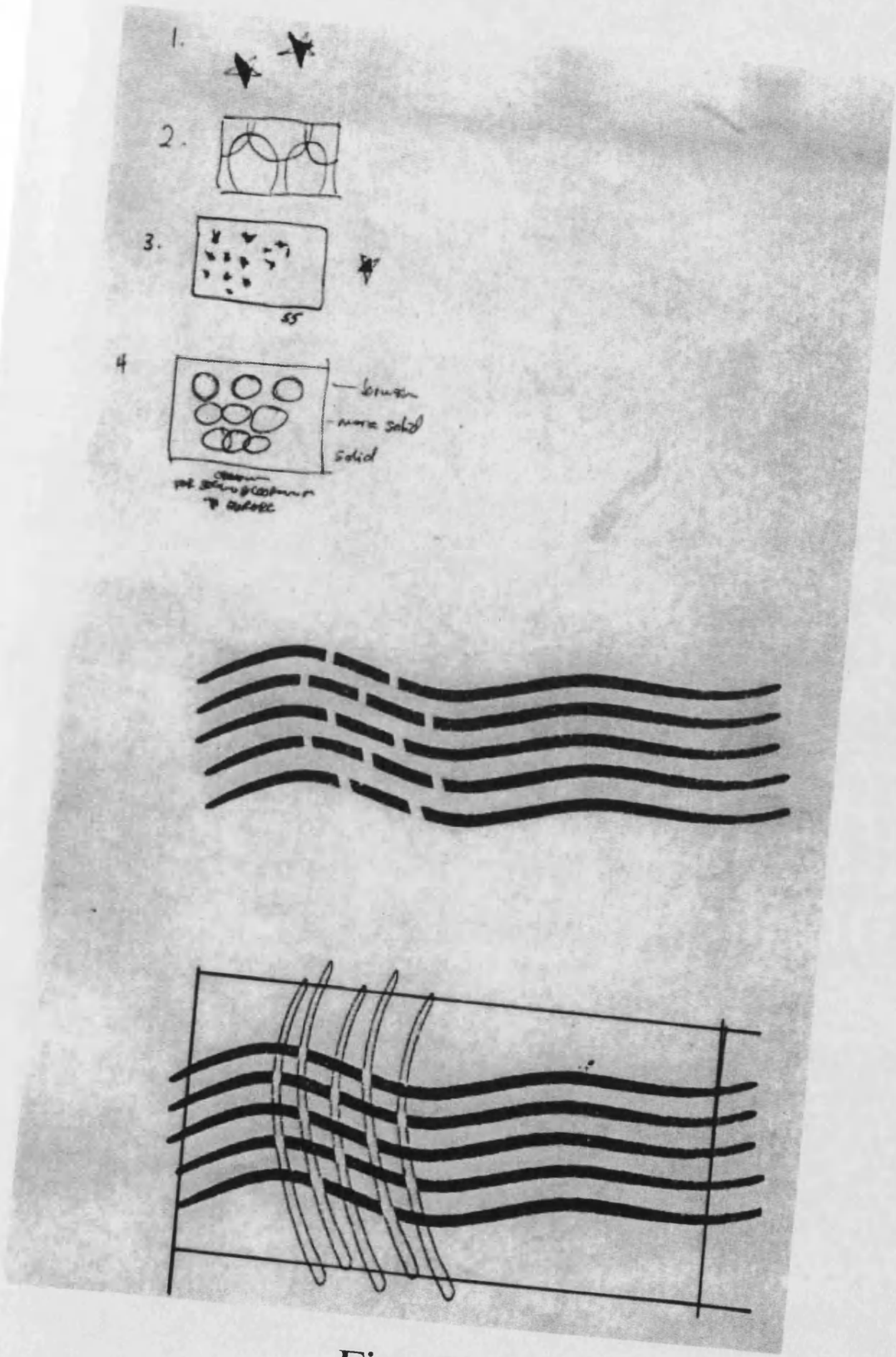


Fig. 50

546

Fig. 51

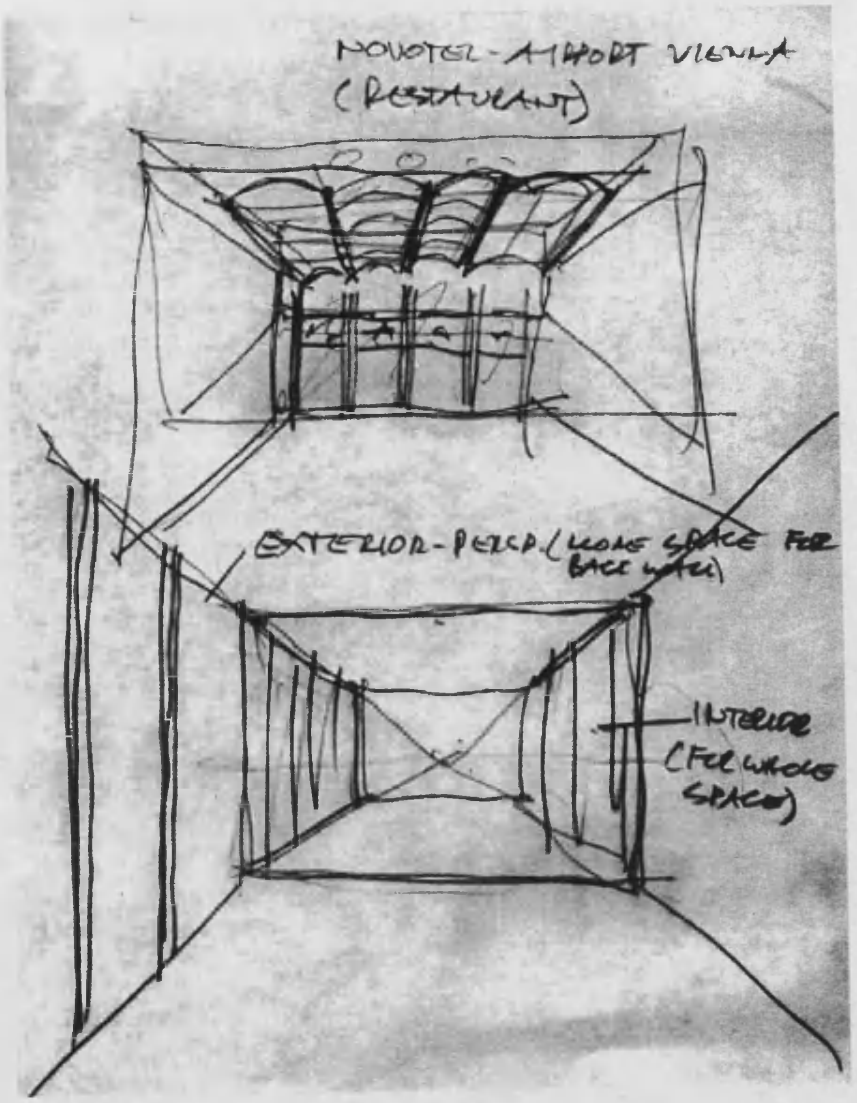

NOVOTEL - AIRPORT VIENNA
(RESTAURANT)
EXTERIOR - PERCP. (
INTERIOR
(FEL

Fig. 52

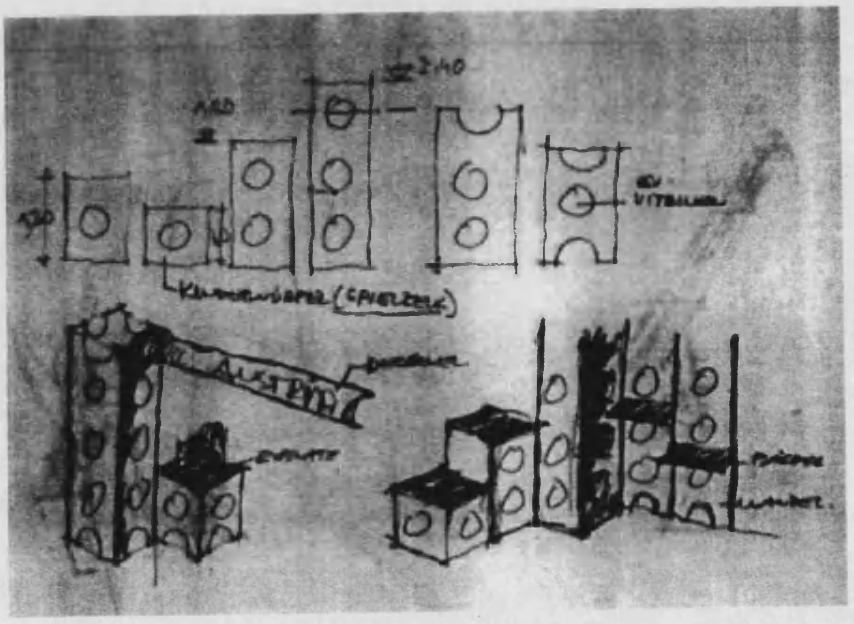


Fig. 53

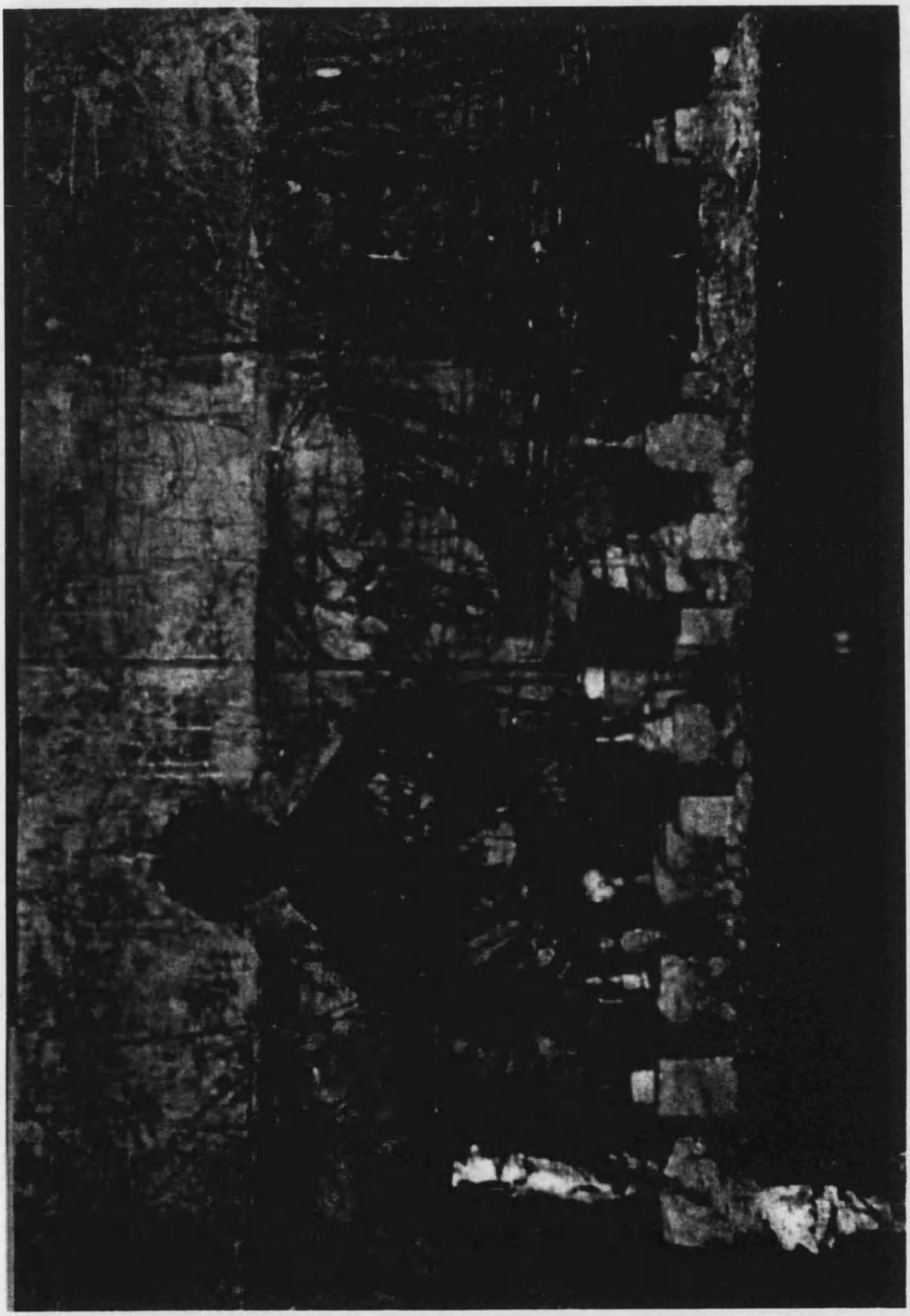


Fig. 54

Fig. 55

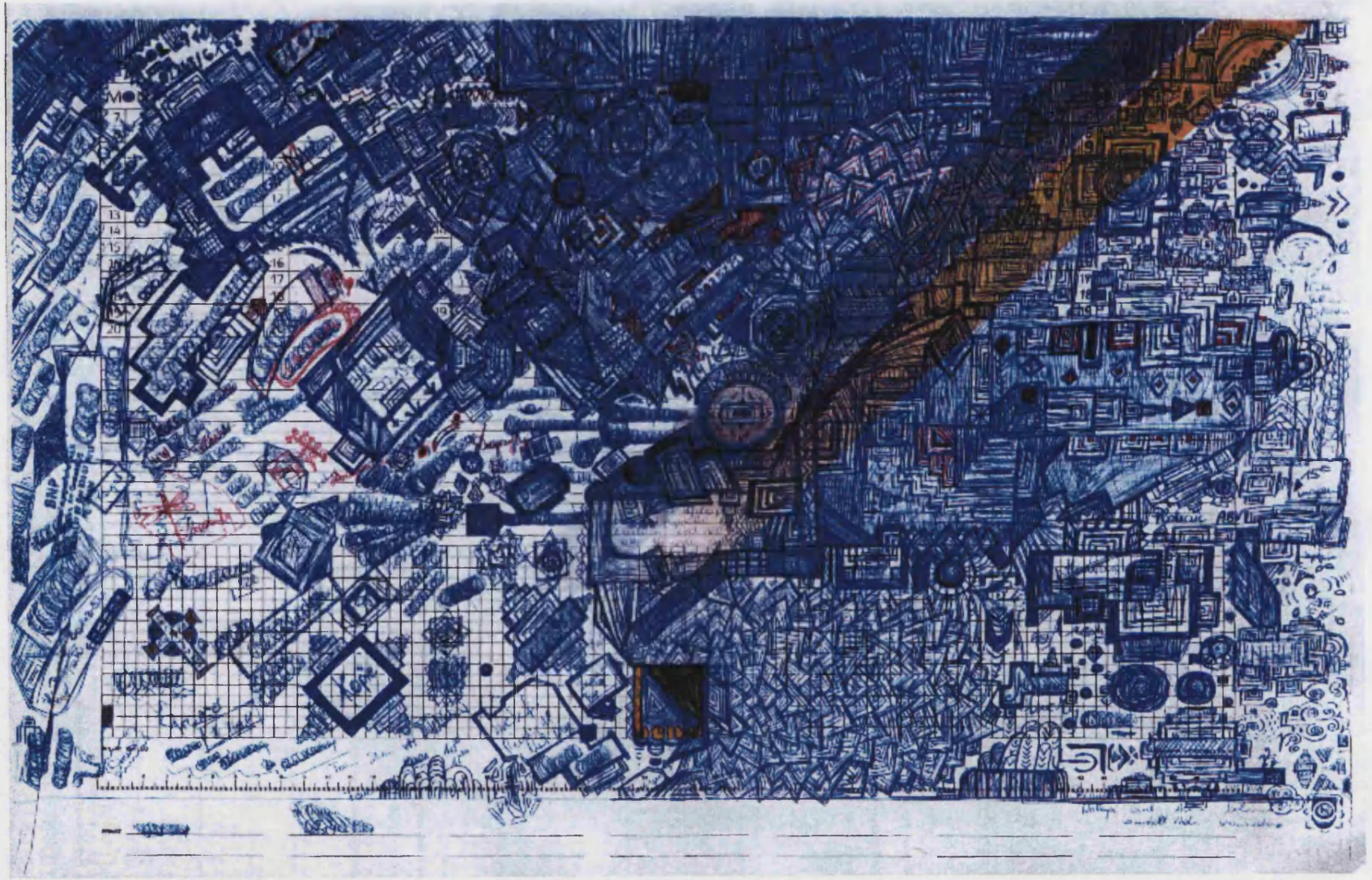


Fig. 56

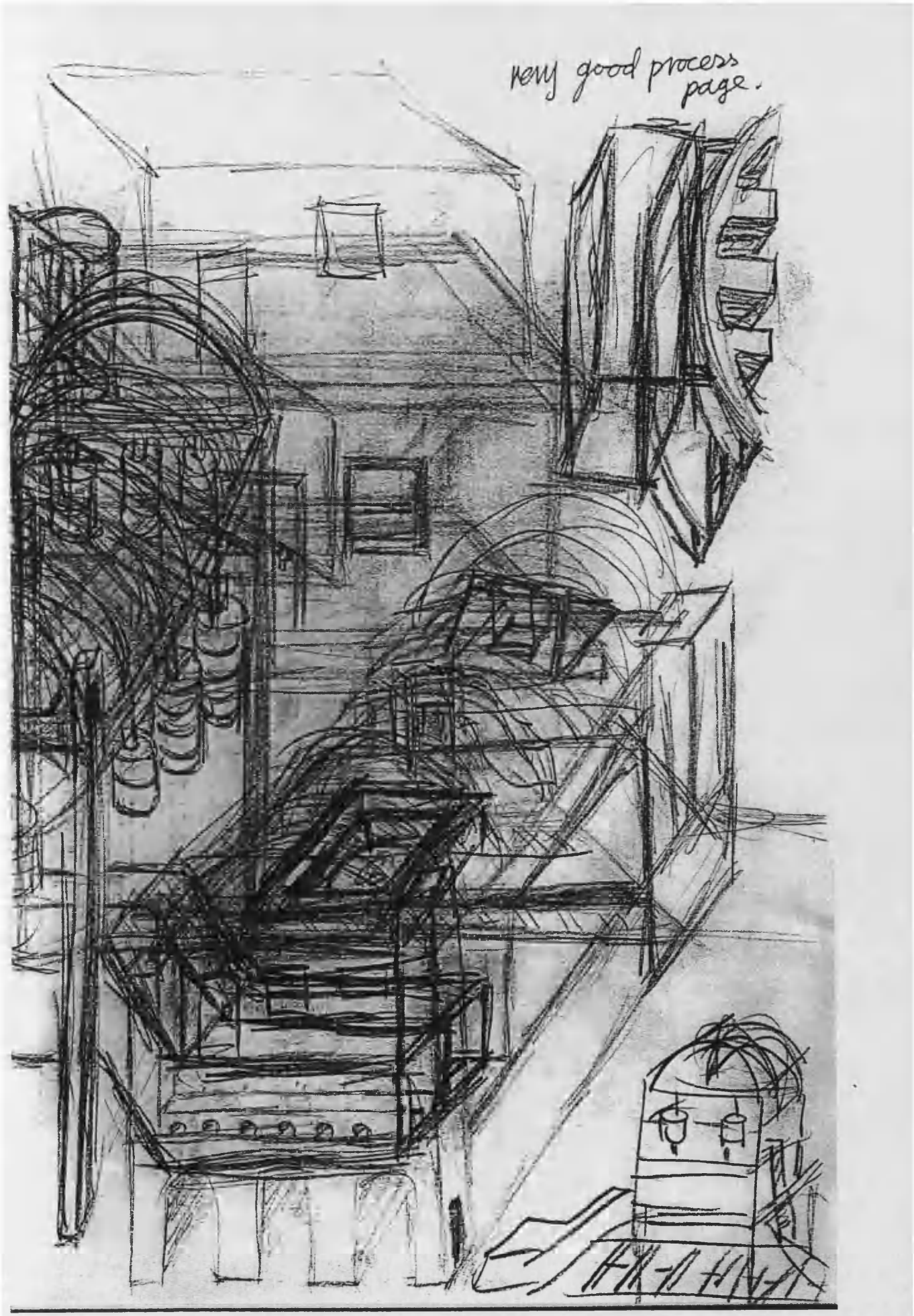


Fig. 57

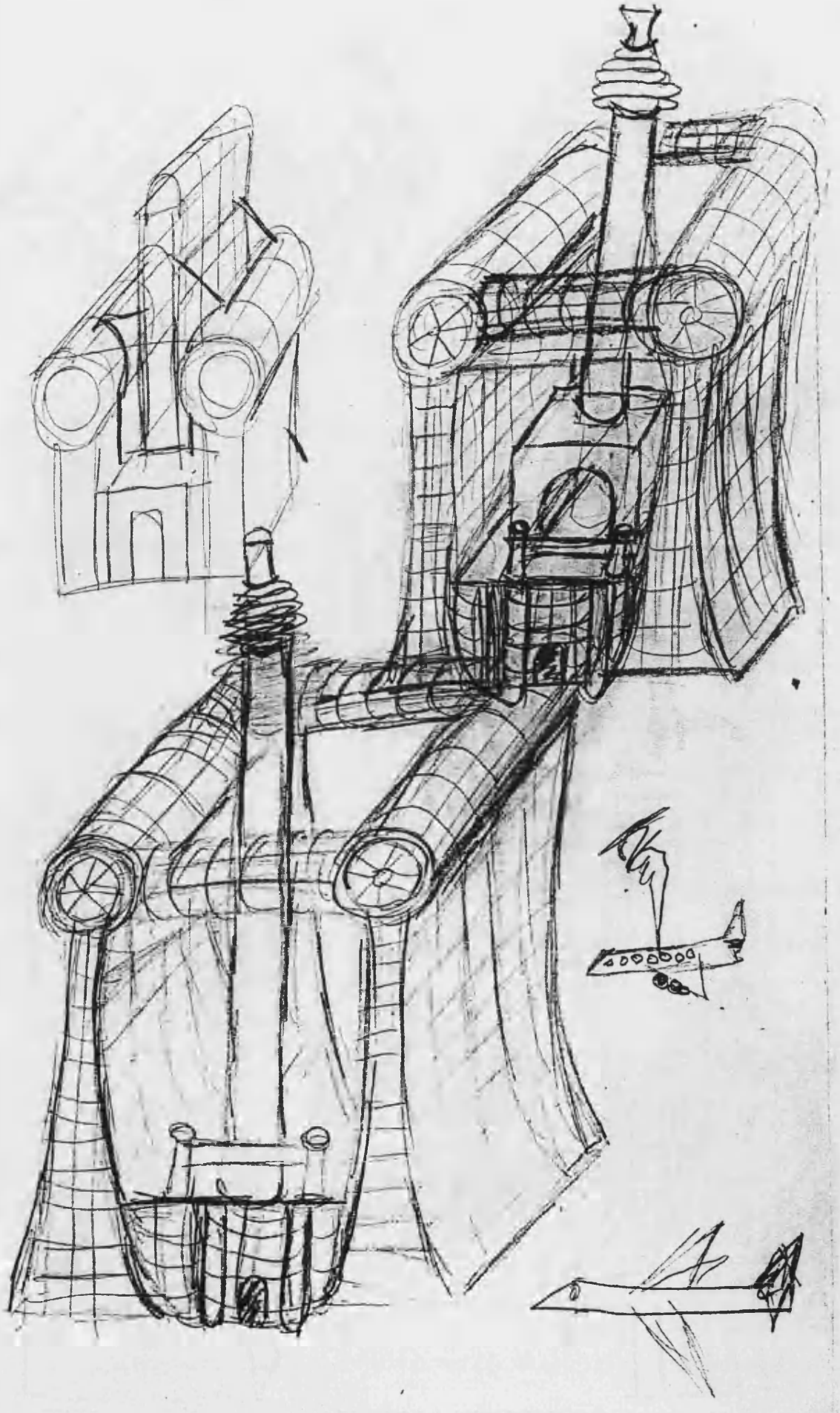


Fig. 58

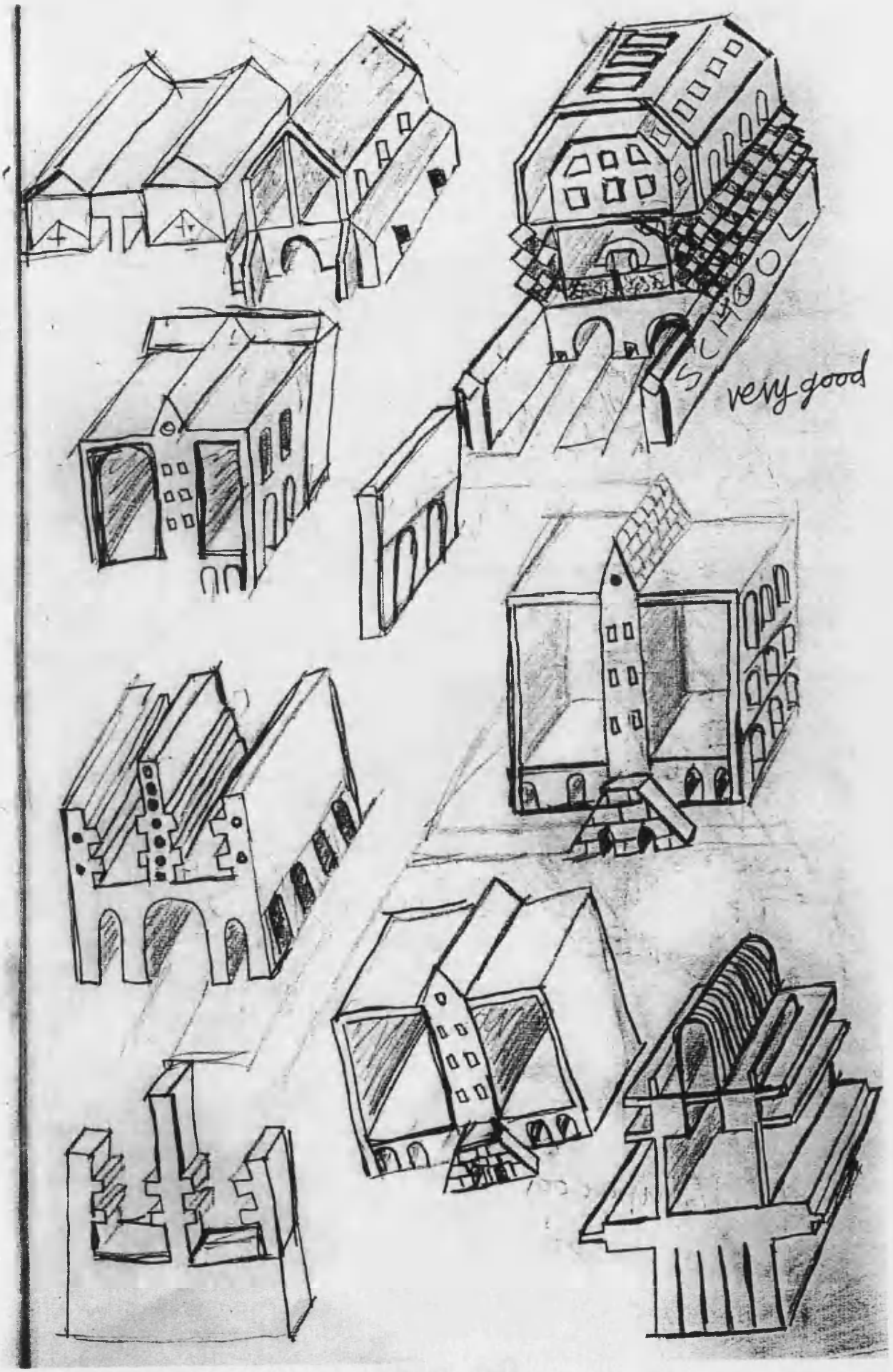


Fig. 59

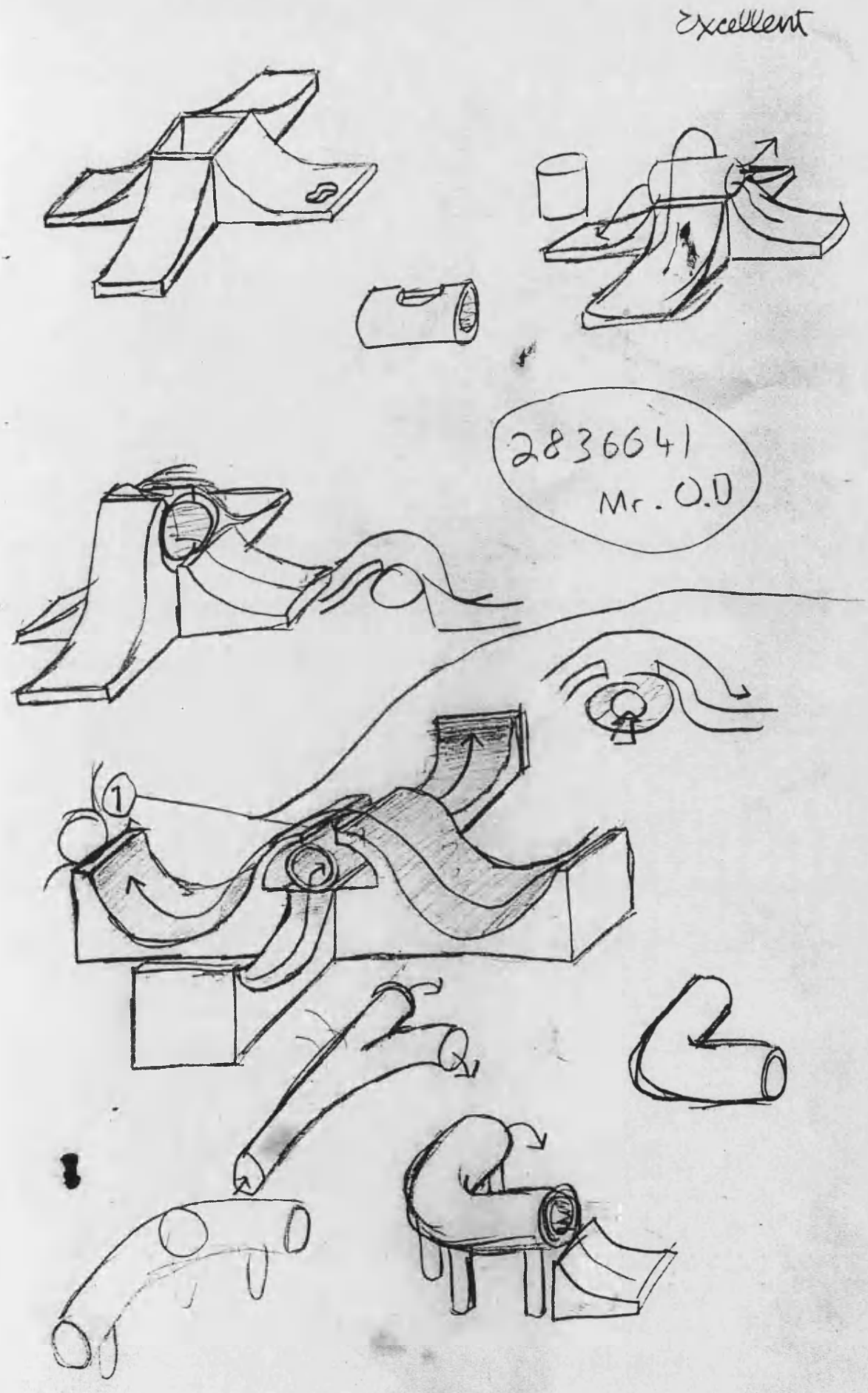


Fig. 60

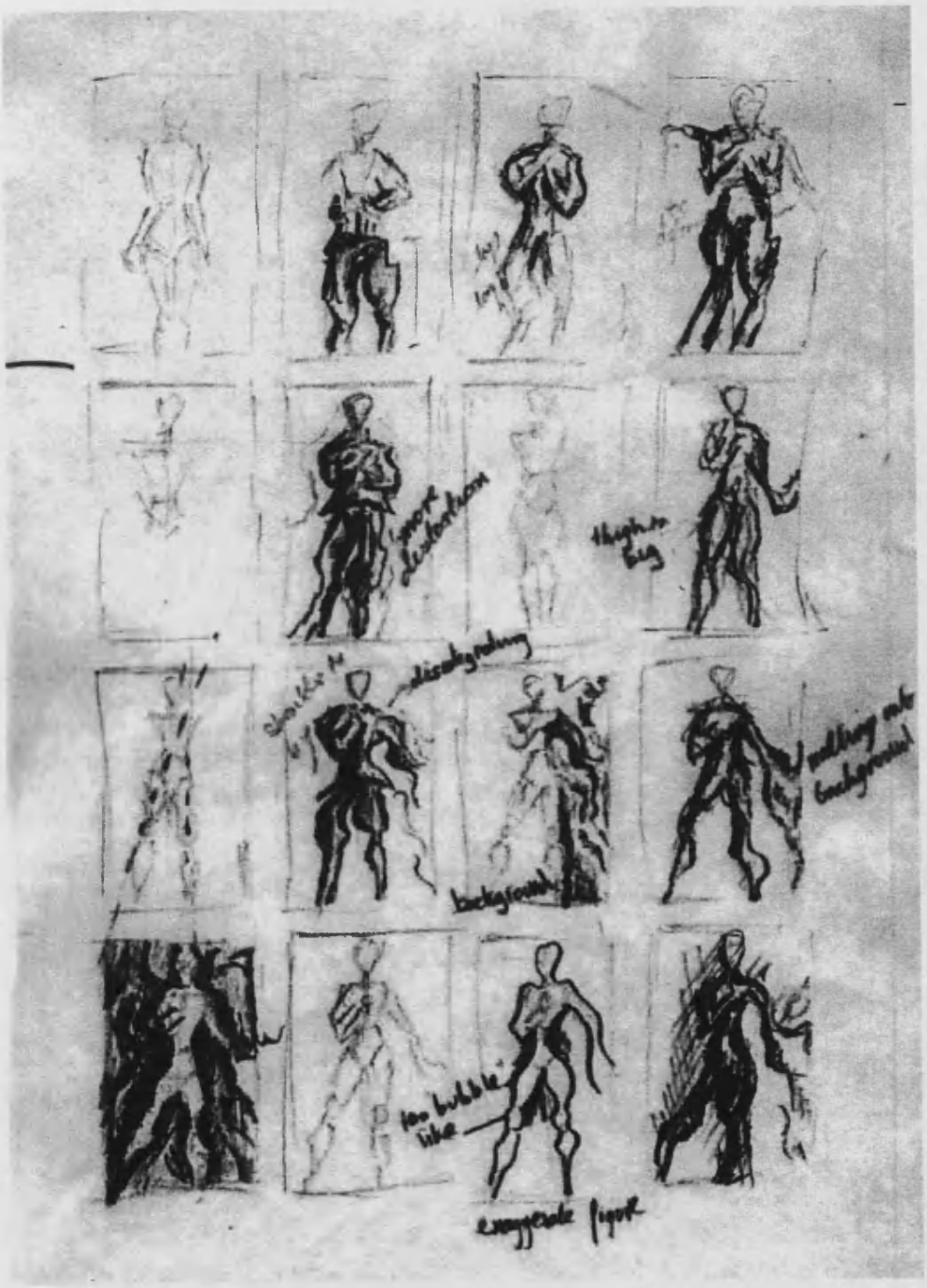


Fig. 63


I have interested in the way
of Ukiyoe's body.
active, energetic and lively.

Fig. 64

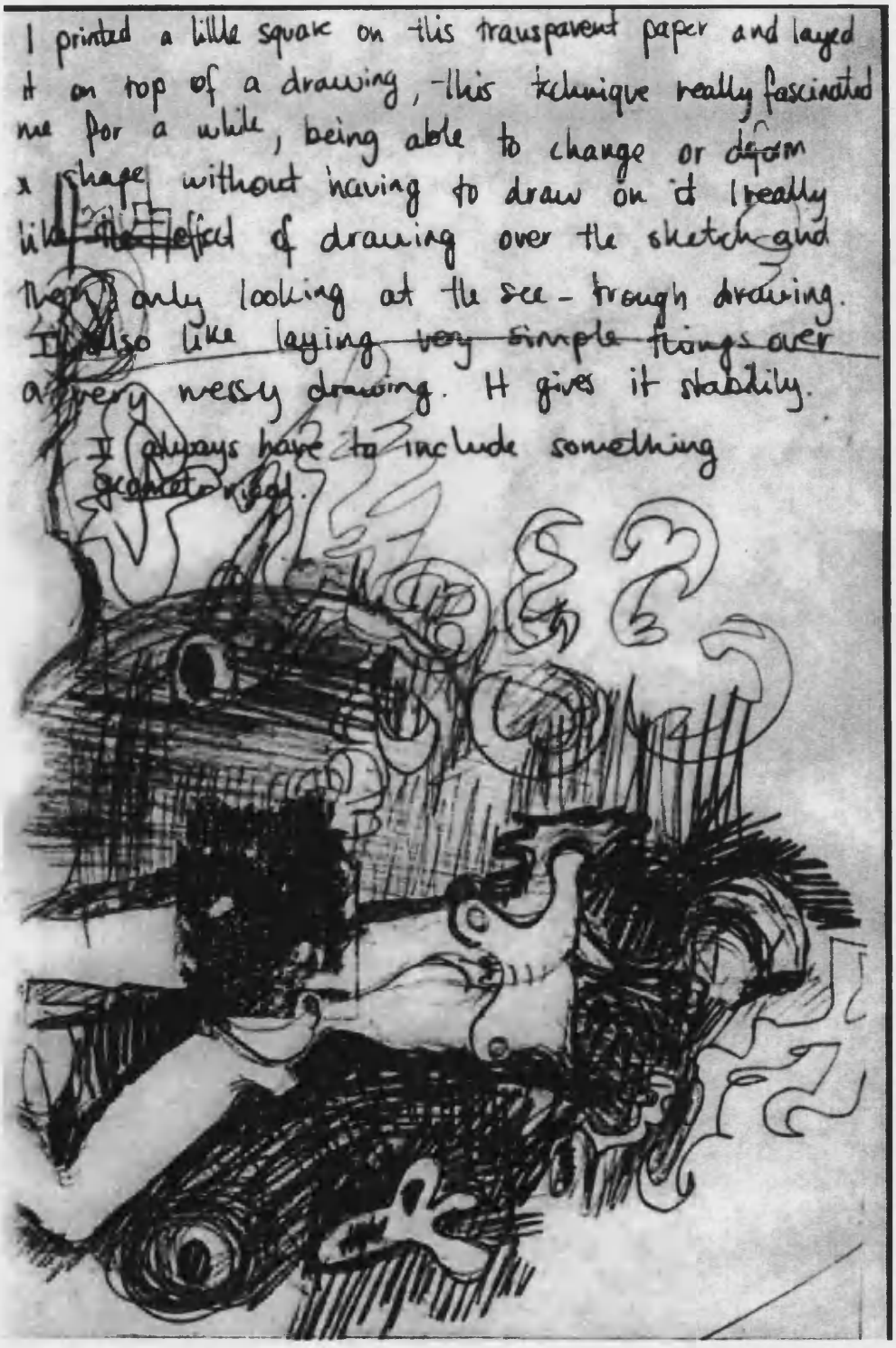

I printed a little square on this transparent paper and layed it on top of a drawing, this technique really fascinated me for a while, being able to change or deform a shape without having to draw on it I really like the effect of drawing over the sketch and then only looking at the see-trough drawing.
I also like laying very simple things over a very messy drawing. It gives it stability.
I always have to include something geometrical.

Fig. 65

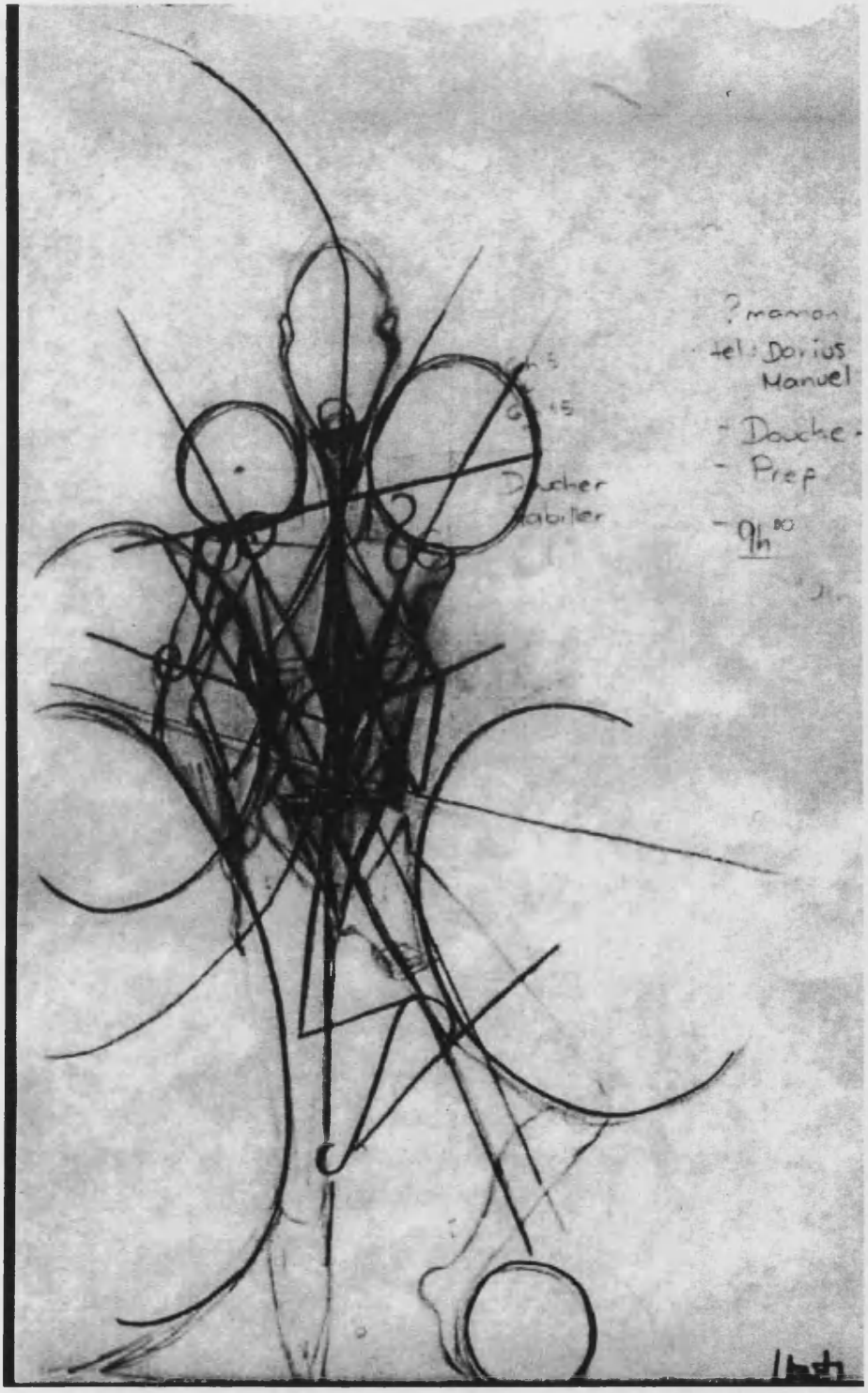


Fig. 66

Pravda - official communist Newspaper "blobo"

Collectivisation started - 1929

·) "Dizzy from Success" (Pravda) ∴ 1930 Spring - temporary halt to collectivisation
Stalin said - local officials carried away with collectivisation (over zealous)
why? → Because of the vast!

·) 1934 → 70% of peasants in collective
300,000 collective farms - ov. 20 families

Problems

·) Protests against collectivisation:- Killing of livestock
burning of crops
∴ Bad harvest = famine (communists)

·) Stalins policy towards the Kulaks (communist co-ops)
(blamed them for famine)
- if does not comply - taxes for anger - scapegoats
forced to go to 1 Kulak "local labour camp" 3 million died (at least)

·) Mechanical Tractor Stations - supply tractors to collectives
MTS often executed since target how to drive, advice about farming methods

Fig. 67

Exams Olivia

Math = 5
English = ?
Bio = 7
German = 6
History = 5
Art = 5

Austrian Geo:
bla bl
lad
liebe ist ...

Film = make notes, audience, evaluate? selective?
judgement - must - which one?

~~Rise of Stalin~~

Stalin

Rise of Stalin

1921 - end of civil war ~~war~~ communism - reforms

Fig. 68

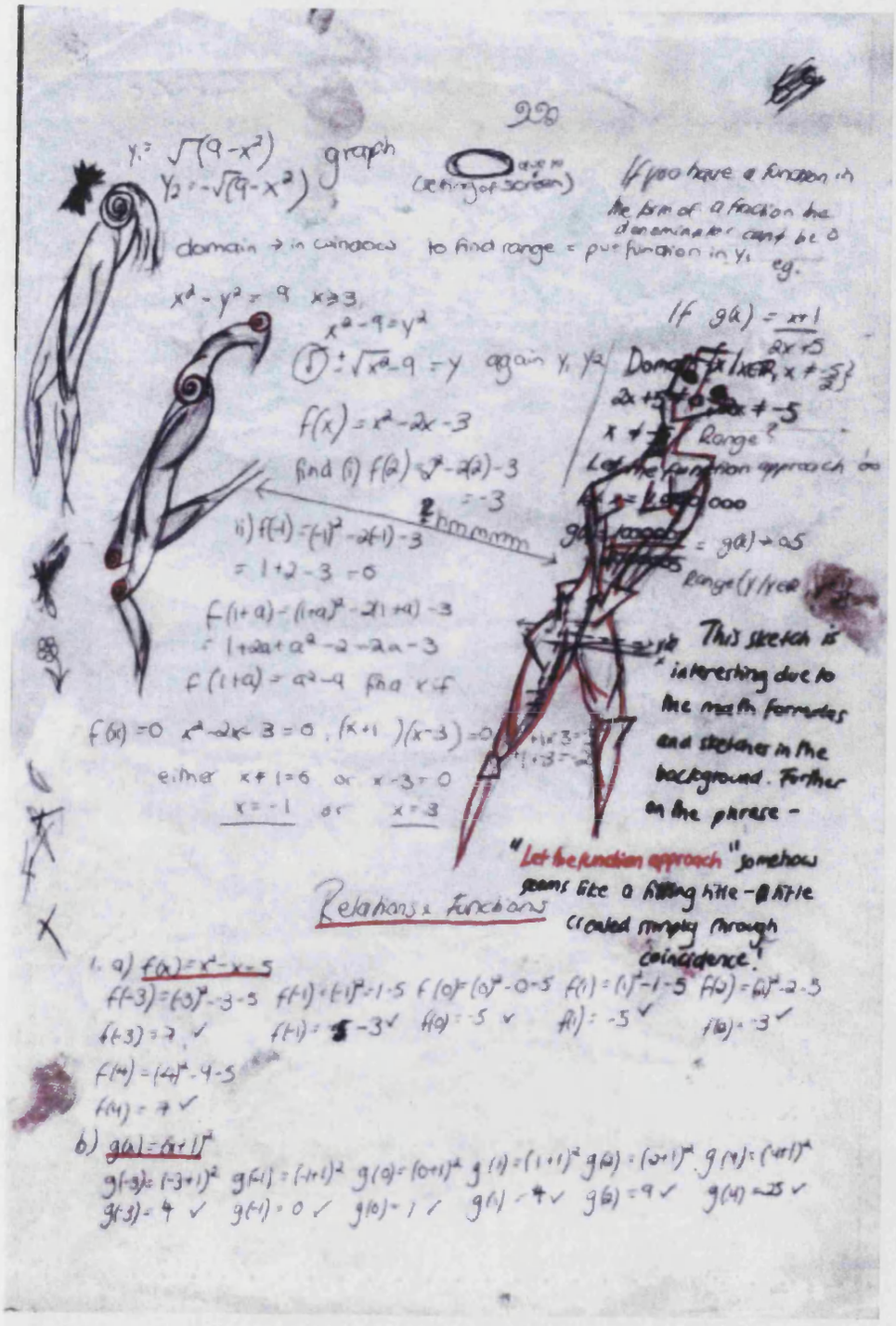

graph
domain → in window
to find range = put function in Y1
If you have a function in the form of a fraction the denominator can't be 0
eg.
This sketch is interesting due to the math formulas and sketches in the background. Further on the phrase -
"Let the function approach" somehow seems like a fitting title - a title created simply through coincidence.
Relations & Functions

Fig. 69

Fig. 70